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# 1. Introduction

On the following pages, we offer you the health report obtained from the analysis of your DNA. In it, you will find information about your genetic predispositions to health.

Here are some basic things to keep in mind before reading this report.

### The process with which we obtain your personalized report

The process we have followed to prepare your health report consists of the following:

- 1. Extract DNA from the saliva sample you sent us.
- 2. Transform the biological data contained in DNA into bioinformatics data. This process is called sequencing. In case you already had your DNA sequencing, these first two steps were not necessary, and we went directly to step 3 with the raw data of your genetic map (RAW DATA file).
- 3. Please apply the algorithms developed exclusively by 24Genetics to this computer data, allowing us to obtain your personalized report.

As you can see, we combine purely biological processes with computer processes so that, without losing an iota of scientific rigor, we can process vast amounts of information and offer you such detailed reports.

### How is our algorithm?

The 24Genetics algorithm is based on the **analysis and study of thousands of publications** (called "papers" in the scientific environment), contrasted, validated, and recognized by the international scientific community, adding value to our reports.

Thanks to the reliability of our ancestry test, the first step in our genetic analysis is to **identify the sex** and ancestry of each individual. From there, we exclusively apply the appropriate studies for each profile whenever it is possible to do so. To obtain the genetic report of a European woman, we do not usually use, for example, studies whose analyzed population has been exclusively male or Asian. At this point, we could apply a single analysis, but we combine a multitude of validated publications, refining the process with artificial intelligence. Thus, we could use all available scientific knowledge to calculate genetic predispositions.

With this, we gain accuracy and reliability in our results.

# Methodology

Our genetic reports are obtained based on three types of analysis methodology:

- **GWAS** (Genome-Wide Association Study). This is a type of study in which DNA markers in the whole genome (a person's complete genetic material) of people with a disease or trait are compared with those of people who do not have that disease or feature. It is a study based on statistics, which considers many genes associated with a predisposition in a not-so-direct way but whose sum offers a relevant conclusion.



- **Multivariate analysis**. In this case, our algorithm analyzes several genetic variants or mutations of one or several genes, which correlate more directly with the predisposition.
- **Monovariate analysis**. In this type of methodology, it is a single variant of a single gene that determines the predisposition due to its strong correlation with the genotype.

Each of the traits discussed in this report is based on one of these three types of methodology.

The data and conclusions in this report, like the progress of scientific research in genetics, may evolve. New mutations are continually being discovered, and the ones we analyze today are getting to know better. At 24Genetics, we make a great effort to apply newly established scientific discoveries to our reports.

## What information do we offer you?

The information provided by our reports speaks of **predispositions**. And what do we mean by this?

In the case of this health report, we have two main types of diseases: complex and hereditary.

- **Complex diseases** have two factors of influence: genetics and environmental factors, or environment and habits. Depending on each pathology, both types of characteristics have a greater or lesser weight.

Complex diseases are analyzed using the three studies mentioned in the previous section: GWAS, multivariate analysis, and monovarietal analysis.

Let's give an example. The possibility of suffering from diabetes is influenced by the two types of factors that we have just mentioned: **genetic and environmental.** Genetic factors indicate the natural propensity we have to suffer from diabetes. On the other hand, the so-called ecological factors include elements that also affect, such as diet, habits, stress level, place where we live, climate, age, etc. Whether or not we eventually develop diabetes depends on the combination of both factors. And, even if we have a genetic predisposition to suffer from it, if we maintain a healthy weight, control glucose consumption, have stress under control, play sports, etc, we may never develop it. Or vice versa.

Conversely, **hereditary diseases** are only influenced by genetics and are analyzed based exclusively on mutations (monovarietal or multivariate analysis). In this case, only a particular modification or transformation determines the propensity to suffer from the disease or be a carrier without developing it. In this case, environmental factors do not play a role.

However, even though environmental factors do not play a role, each pathogenic mutation associated with a possible disease may or may not cause the development of said disease and may do so at different levels. In this sense, we can talk about two concepts:

- o Penetrance is the percentage of people who develop the disease out of all those with the pathogenic mutation. In some cases, this figure is 100% since mutations necessarily cause the disease.
- o Expressivity consists of the range of clinical manifestations associated with the disease being suffered. With the same condition, one person can have very few symptoms, and another, all that can entail.



In addition to complex and hereditary diseases, our report includes other types of pathologies or indicators, such as intolerances, biomarkers, and others, which you can see described later in the "Structure of this report" section.

In this report you could see some pathologies that cannot develop in your biological sex, such as ovarian cancer, which for obvious reasons cannot occur in a biological male. We did not want to remove that information from your report, because you may be a carrier of a mutation or mutations associated with that disease and pass it on to offspring, who could develop the disease, so the information is equally valuable.

In any of the cases, our reports tell you are always genetic predispositions, either because environmental factors play a role or because our tests do not analyze the entire genome and are not considered diagnostic tests.

# What does this genetic report give you?

In this report, you have a large amount of **scientifically validated information** about your predispositions, and this allows you to know **how your body works** naturally and what aspects you should possibly pay attention to

At 24Genetics, we recommend that you always consult a doctor, who will act with all his knowledge and experience, be able to clarify your doubts, complement this report with your health history and available family history, supervise the follow-up of your possible pathology, or prescribe additional diagnostic tests, if he deems it necessary to confirm the risk of one or more specific predispositions.

# A fundamental concept: the genetic variant.

Regarding genetic concepts, we want to share a basic one, which appears in all the traits in our reports and is essential for you to understand at least briefly, such as genetic variants (also called variation or mutation). The variant is a permanent change in the DNA sequence that forms a gene and is what marks an individual predisposition. Therefore, in each trait in this report, you will see information about the gene or genes affected in that trait. One or more variants in that gene or genes determine the different predispositions of some people compared to others.

For example, in the case of thyroid cancer, the rs77316810 and rs79781594 variants of the RET gene can mark the predisposition to suffer from this disease.

# 1.1. Structure of this report

This report is organized into the following categories:

#### 1. Complex diseases: GWAS

Complex diseases are defined as pathologies whose development is influenced by multiple factors. Genetics is only one part, and other environmental factors, such as lifestyle, diet, where we live, our daily stress level, age, etc., can be as essential or more significant than our genes.

This section will exclusively include complex diseases analyzed using the GWAS (Genome-Wide Association) methodology. Studies ), that is, biostatistical analysis, to which we have already referred in the "Methodology" section.



In these pathologies, the information we will obtain is based on a comparison with the population's mean. Therefore, your result will indicate whether you have a higher, equal, or lower predisposition than the population average. Usually, we will tell you that you have a higher genetic predisposition than the average if you are in the 10% of the population with the highest propensity to that disease and less if you are in the 10% of the people with the most negligible bias. We remind you, as we have already indicated in this report, that having a penchant or not does not mean that you are going to suffer from a disease or that you are free of it since many other factors influence it. In addition, it is common to have a greater predisposition than the average in between 10 and 20% of the pathologies analyzed.

To facilitate the understanding of the information, we have classified these diseases by medical specialties or areas of the body.

- 1.1. Neurology
- 1.2. Circulatory system
- 1.3. Digestive system
- 1.4. musculoskeletal system
- 1.5. Endocrinology
- 1.6. urogenital system
- 1.7. Dermatology
- 1.8. other

#### 2. Complex diseases: oncogenic mutations

In this section we continue to analyze complex diseases, i.e. multifactorial diseases, which are influenced by both genetic and environmental factors, but the difference with the previous section is that we rely on the detection of mutations in one or more markers of one or more genes (monovariate or multivariate analysis, as described in the "Methodology" section). These mutations by themselves already mark the genetic predisposition to suffer from that disease, without any comparison with the population. Therefore, in the results of these diseases, we tell you whether or not we have found mutations likely to be pathogenic, and we do not make any comparison with the population. For this section, we consider pathogenic the mutations included in the ClinVar database.

#### 3. Complex diseases: others

In this section, we include complex diseases analyzed by detecting mutations in one or more markers of one or more genes (monovarietal or multivariate analysis) unrelated to oncological processes. They share the methodology with the previous section, but they are not cancer-related diseases. As in the earlier cases, these are complex diseases and, as such, multifactorial.

#### 4. Viruses, bacteria and fungi

Genetics are essential in the relationship between viruses, bacteria, and fungi and the diseases they can cause. Your genes may indicate greater susceptibility or resistance to a viral, bacterial, or fungal infection. Using all our types of methodologies (GWAS, multivariate or monovarietal), in this section, we will inform you of your genetic predisposition to multiple infectious diseases, such as tuberculosis, Covid, pneumonia, bronchitis or herpes, among others, and even the risk of aggravation of some of them.



#### 5. Allergies and intolerances

In this section, we analyze a series of intolerances and allergies in the food, dermatological and respiratory fields, and we tell you if you have a genetic predisposition to suffer from them. Thus, with the help of a health professional, you can take the appropriate measures to try to avoid them or modulate their symptoms and improve your well-being. We use our three methodologies in the allergies and intolerances section, so the result of each of your analyzed traits will depend on the specific methods we have used.

#### 6. Biomarkers and others

Some physiological parameters, such as cholesterol or triglyceride levels, bone density, or the number of white blood cells, platelets, or neutrophils, among many others, are influenced by your DNA, which determines your possible tendency to have abnormal indicators.

In this section, we exclusively use the GWAS methodology, so the results will indicate whether you are more, equal, or less predisposed than the population average to having abnormal levels of each parameter.

#### 7. Pharmacogenetics

The same drug can work differently in different people; part of that possible effect depends on DNA. That is, your genetics can influence the response to varying types of drugs in terms of level of toxicity, effectiveness, metabolism, or necessary dose.

In this section, through monovarietal and multivariate analysis, we study your genetic predisposition for your body to respond in one way or another to certain medications.

#### 8. Hereditary diseases: genetics

Hereditary diseases, unlike complex ones, are not influenced by environmental factors. DNA is the only influence factor to suffer from them or not. In this section, for each of the diseases that we analyze, we look for pathogenic mutations, or mutations likely to be, reported in the most critical genetic databases worldwide, mainly OMIM and ClinVar, and that have been associated with said pathologies.

Most of the diseases listed in this section can be classified into the so-called "rare diseases," and, as we have commented, lifestyle or other external factors do not affect the possibility of suffering from these ailments, only DNA influences. Additionally, we remind you that the mutations associated with a disease can cause its development or not and, in case of developing it, do so with different intensity, according to the concepts of penetrance and expressivity described earlier in this introduction.

As their name suggests, hereditary diseases are likely to be transmitted to your descendants. In this sense, it should be noted that having a pathogenic mutation that predisposes to a condition does not always imply suffering from it, and there can be 2 cases:

- 1. Being a carrier and also developing the disease.
- 2. You are a carrier of the disease (which happens whenever you have the pathogenic mutation) but not developing it. In this case, although the condition does not create, the pathogenic mutation can be transmitted to the offspring and, therefore, the predisposition to the disease. The greater or lesser probability of inheriting the pathogenic mutation by the offspring also depends on the genetics of the other parent. Therefore, this information is precious.



These types of diseases are mostly monogenetic, so one or more mutations of a single gene mark the predisposition to suffer a specific pathology.

It is important to note that this test does not sequence the complete genome. Still, we analyze just over 700,000 of the 3.2 million genetic markers that mark variability in the human genome, so there may be other mutations **in areas of the genome that we are not analyzing.** 

\* The information provided in this report is for research, information, and educational uses only. In no case is it valid for clinical or diagnostic use.

## 1.2. Frequently Asked Questions

#### Does it all depend on my genes?

No. The body responds to a whole series of conditions. Our genes are certainly an important parameter, but lifestyle, such as exercise and diet, influence our body. Undoubtedly, knowing yourself well helps to treat the body in the most appropriate way, and this is what you can get from genetics. Thanks to a genetic test for disease prevention, you obtain more knowledge for yourself and for the professionals who care for your health.

If my report says that I have a high genetic predisposition to suffer from a certain disease, does that mean that I will suffer from it?

We are our genes and our experiences.

Apart from your genes, there are many other environmental and internal factors that influence the development or not of a disease, so you can be genetically prone to a pathology and never develop it due to environmental reasons, health habits, lifestyle... But you can also not have a predisposition and suffer from a certain disease at some point in your life.

In addition, depending on the pathology, genetics may have a greater or lesser influence on the appearance or development of a disease.

Knowledge of our genetics through a disease DNA test allows health professionals to carry out their work with much more information. In addition, it allows designing prevention plans that can make a difference.

Do I have to make drastic changes in my health treatments on my own as a result of the results of this health and disease DNA test?

Our reports show data on your body's genetic predispositions, but there are many other external, environmental or habit factors that influence it. For this reason, we consider our reports as preventive, not diagnostic. Our recommendation is to always consult with medical professionals in case of any doubt that may arise from your health DNA test. Therefore, the answer is no, you should not make major changes without the validation of a professional.

If my report says that I am not prone to a certain disease, does that mean that I am not at risk?

Most diseases do not depend only on our genes, they also depend on countless internal and external factors that can cause them. In addition, our health DNA test has partial information about your genome.



We are not sequencing the complete genome, but only a part, so it does not exclude the possibility that you may carry other mutations associated with said pathology in other gene regions that we are not analyzing or that are not currently known.

There are genetic tests for clinical or diagnostic use, which analyze all the genes involved in a certain pathology or disease and which a medical service can prescribe if deemed appropriate. And, of course, one must always take into account multiple environmental factors, as these can also have a high degree of influence on the possibility of disease development.

Our genetic health and disease tests are not valid for clinical or diagnostic use. Therefore, when in doubt, we always recommend consulting your doctors so that they are the ones who prescribe the appropriate clinical genetic tests.

#### Does my genetic predisposition to suffer from certain pathologies mean that my relatives also have it?

The genetics of each person is unique, so we always recommend that you consult with your reference clinical service the decisions to be made in terms of health. However, in genetics, many of the patterns that are expressed are often related to those of close relatives, so it would be normal for the reports to be quite similar. However, keep in mind that multiple external factors also influence the development or not of a disease, so that the probability of suffering from it will be very different among family members with different lifestyles, health habits, place of residence, etc.

#### Some of the studies on which our DNA test for health is based.

The 24Genetics genetic health test is based on thousands of genetic investigations agreed upon by the international scientific community. Our system selects the research that is applicable to you (depending on your gender and ancestry) and our algorithm combines it to provide you with the most useful information for your health and well-being. Here are some examples of genetic research used:

- Ahmed S et al; Newly discovered breast cancer susceptibility loci on 3p24 and 17q23; Nat Genet; 2009 May;41(5):585-90.
- Cox A et al; A common coding variant in CASP8 disassociated with breast cancer risk; Nat Genet; 2007 Mar;39(3):352-8.
- Dickson C et al; Tyrosine kinase signalling in breast cancer: fibroblast growth factors and their receptors; Breast Cancer Res; 2000;2(3):191-6.
- Easton DF et al; Genome-wide association study identifies novel breast cancer susceptibility loci; Nature; 2007 Jun28;447(7148):1087-93.
- Hunter DJ et al; A genome-wide association study identifies alleles in FGFR2 associated with risk of sporadic postmenopausal breast cancer; Nat Genet; 2007 Jul;39(7):870-4.
- Chang YK et al; Association of BANK1 and TNFSF4 with systemic lupus erythematosus in Hong Kong Chinese; Genes Immun.; 2009; 10(5):414-20.



# 2. Summary

# **GWAS Complex Diseases: Neurology**

- Parkinson's disease
- Motion sickness
- Multiple sclerosis
- Neuroblastoma
- Glioma

- Intracranial aneurysm
- Alzheimer's disease (late onset)
- Schizophrenia
- Conduct disorder

#### Caption:

- According to this study, you have a predisposition similar to most of the population.
- According to this study, you are less likely to suffer from this disease than the majority of the population.
- According to this study, you are more likely to suffer from this disease than most of the population.

# **GWAS Complex Diseases: Circulatory System**

- Primary biliary cirrhosis
- Myocardial infarction (early onset)
- Hodgkin's lymphoma
- Follicular lymphoma

- Coronary heart disease
- Chronic lymphocytic leukemia
- Diffuse large B cell lymphoma
- Wilms tumor

#### Caption:

- According to this study, you have a predisposition similar to most of the population.
- According to this study, you are less likely to suffer from this disease than the majority of the population.
- According to this study, you are more likely to suffer from this disease than most of the population.

# GWAS Complex Diseases: Respiratory System

Upper aerodigestive tract cancers

 Chronic bronchitis and chronic obstructive pulmonary disease

Asthma

#### Caption:

- According to this study, you have a predisposition similar to most of the population.
- According to this study, you are less likely to suffer from this disease than the majority of the population.
- According to this study, you are more likely to suffer from this disease than most of the population.

# GWAS Complex Diseases: Musculoskeletal System

- Systemic sclerosis
- Rheumatoid arthritis
- Myasthenia gravis

- Osteosarcoma
- Multiple myeloma

#### Caption:

- According to this study, you have a predisposition similar to most of the population.
- According to this study, you are less likely to suffer from this disease than the majority of the population.
- According to this study, you are more likely to suffer from this disease than most of the population.

# **GWAS Complex Diseases: Endocrinology**

Type 1 diabetes

Type 1 diabetes nephropathy



Type 2 diabetes

Hypothyroidism

#### Caption:

- According to this study, you have a predisposition similar to most of the population.
- According to this study, you are less likely to suffer from this disease than the majority of the population.
- According to this study, you are more likely to suffer from this disease than most of the population.

## GWAS Complex Diseases: Urogenital System

Endometriosis

Bladder cancer

#### Caption:

- According to this study, you have a predisposition similar to most of the population.
- According to this study, you are less likely to suffer from this disease than the majority of the population.
- According to this study, you are more likely to suffer from this disease than most of the population.

# **GWAS Complex Diseases: Dermatology**

Basal cell carcinoma

Psoriasis

Vitiligo

#### Caption:

- According to this study, you have a predisposition similar to most of the population.
- According to this study, you are less likely to suffer from this disease than the majority of the population.
- According to this study, you are more likely to suffer from this disease than most of the population.

# **GWAS Complex Diseases: Others**

Celiac disease Age-related macular degeneration

#### Caption:

- According to this study, you have a predisposition similar to most of the population.
- According to this study, you are less likely to suffer from this disease than the majority of the population.
- According to this study, you are more likely to suffer from this disease than most of the population.

# Complex Diseases: Oncogenic Mutations

- APC: colorrectal and pancreatic cancer
- BARD1: breast cancer
- BMPR1A: colorrectal, gastric and pancreatic cancer
- BRCA2: breast and ovarian cancer
- CDH1: breast and gastric cancer
- CDKN2A: pancreatic cancer
- DICER1: ovarian cancer
- FH: Hereditary leiomyomatosis and renal cell cancer
- MEN1: multiple endocrine neoplasia type
- MITF: MITF-related melanoma and renal cell carcinoma predisposition syndrome
- MSH2: Lynch syndrome and colorrectal cancer

- ATM: breast cancer
- BLM: colorrectal cancer
- BRCA1: breast and ovarian cancer
- BRIP1: breast cancer
- CDK4: Familial melanoma
- CHEK2: breast and colorrectal cancer
- EPCAM: Lynch syndrome, breast, ovarian, uterine, colorrectal, gastric and pancreatic cancer
- FLCN: Kidney cancer
- MET: Lung and gastric cancer
- MLH1: Lynch syndrome
- MSH6: Lynch syndrome and colorrectal cancer



- MUTYH: colorrectal cancer
- NF1: type 1 neurofibromatosis
- NTHL1: Attenuated familial adenomatous polyposis
- PMS2: Lynch syndrome and colorrectal cancer
- POLE: ovarian, uterine, colorrectal andpancreatic cancer
- POT1: Familial melanoma
- PTEN: breast, uterine and colorrectal cancer
- RAD51C: ovarian cancer
- RECQL4: Stomach and colon cancer
- SDHA: gastric cancer
- SDHB: gastric cancer
- SDHD: breast, uterine and gastric cancer
- SMAD4: juvenile polyposis syndrome and colorrectal cancer
- SMARCB1: Familial rhabdoid tumor
- STK11: breast, ovarian, uterine, colorrectal, gastric and pancreatic cancer
- TP53: Li-Fraumeni syndrome, breast cancer and more
- WT1: Nephroblastoma
- Kenny-Caffey syndrome

- NBN: breast, ovarian, colorrectal and gastric cancer
- NF2: Familial multiple meningioma
- RAD50: breast and pancreatic cancer
- POLD1: breast, ovarian, uterine and colorrectal cancer
- MSH3-related attenuated familial adenomatous polyposis
- PTCH1: Basal cell carcinoma
- RAD50: breast and ovarian cancer
- RB1: Lynch syndrome and retinoblastoma
- RET: thyroid carcinoma
- SDHAF2: Hereditary pheochromocytoma-paraganglioma
- SDHC: gastric cancer
- BAP1-related tumor predisposition syndrome
- SMARCA4: ovarian cancer
- SMARCE1: Familial multiple meningioma
- TERT: Familial melanoma
- VHL: Von Hippel-Lindau syndrome
- Familial adenomatous polyposis

- We have not detected any pathogenic mutation but, since we only analyze a part of the gene, you could have some pathogenic mutation in the non-analyzed genetic regions.
- We have detected at least one mutation that could be pathogenic.

# Complex Diseases: Multivariate Analysis

- Septic shock
- TSC2: tuberous sclerosis complex 2

TSC1: tuberous sclerosis complex 1

#### Caption:

- We have not detected any pathogenic mutation but, since we only analyze a part of the gene, you could have some pathogenic mutation in the non-analyzed genetic regions.
- We have detected at least one mutation that could be pathogenic.

# Viruses, Bacteria and Fungi

- The severity of COVID-19 infection
- HIV Transmission
- Cirrhosis due to Hepatitis B
- Severe hospital pneumonia

- Severe Acute Respiratory Syndrome (SARS)
- Genital herpes
- Community-acquired pneumonia
- Bronchitis



- According to this study, you have a predisposition similar to most of the population.
- According to this study, you are less likely to suffer from this disease than the majority of the population.
- According to this study, you are more likely to suffer from this disease than most of the population.

## Allergies and Intolerances

- Lactose intolerance
- Shellfish allergy
- Allergic rhinitis

- DAO deficiency and migraines
- Mercury Accumulation
- Allergy to grass pollen

#### Caption:

- According to this study, you have a predisposition similar to most of the population.
- According to this study, you are less likely to suffer from this disease than the majority of the population.
- According to this study, you are more likely to suffer from this disease than most of the population.

#### Biomarkers and Others

- Calcium levels
- Magnesium levels
- Beta-2 microglubulin plasma levels
- Serum total protein level
- Glycerophospholipid levels
- Phospholipid levels (plasma)
- Heart rate
- Thyroid hormone levels
- Neutrophil levels
- Platelet levels
- Monocyte levels
- Menopause (age at onset)
- Lung volume

- Phosphorus levels
- Plasma omega-6 polyunsaturated fatty acid levels (dihomo-gamma-linolenic acid)
- Glycated hemoglobin levels
- GGT levels
- Serum albumin level
- Aortic root size
- Bilirubin levels
- Eosinophil levels
- Interleukin 6 and Inflammation
- White blood cell count
- Uric acid levels
- Bone mineral density
- Longevity

#### Caption:

- According to this study, you have a similar predisposition to the majority of the population to have normal levels.
- According to this study, you have a better predisposition than the majority of the population to have normal levels.
- According to this study, you have a greater predisposition than most of the population to suffer abnormal levels.

# **Pharmacogenetics**

- Warfarin
- Pentazocine
- Aspirin
- Bupropion
- Methotrexate
- Vincristine
- Peginterferon Alpha-2b

- Meperidine
- Morphine
- Simvastatin
- Pravastatin
- Fluorouracil, capecitabine, pyrimidine analogues, tegafur and Neoplasms
- Tacrolimus
- Ribavirin



- We have not found anything in your genetics that indicates a predisposition to an abnormal effect of this drug. Other non-analyzed and non-genetic genetic factors may play a role.
- According to your genotype you have a greater predisposition for the drug to have an abnormal effect on you. Other non-analyzed
  and non-genetic genetic factors may play a role.
- According to your genotype you have a greater predisposition for the drug to have a harmful effect on you. Other non-analyzed and non-genetic genetic factors may play a role.
- According to your genotype, you have a greater predisposition to respond positively to this drug. Other non-analyzed and non-genetic genetic factors may play a role.

# Hereditary Diseases (genetics)

- Isovaleric acidemia
- Methylmalonic acidemia due to methylmalonyl-CoA epimerase deficiency
- Vitamin B12-responsive methylmalonic acidemia
- Congenital lactic acidosis, Saguenay-Lac-Saint-Jean type
- 3-methylglutaconic aciduria type 1
- 3-methylglutaconic aciduria type 9
- D-2-hydroxyglutaric aciduria
- Fumaric aciduria
- Achondroplasia
- Gastric adenocarcinoma and proximal polyposis of the stomach
- Neurological conditions associated with aminoacylase 1 deficiency
- Oculocutaneous albinism type 1
- Oculocutaneous albinism type 3
- Alkaptonuria
- Alpha-mannosidosis
- ALG6-CDG
- ATTRV30M amyloidosis
- Multiple myeloma
- Congenital dyserythropoietic anemia type
   II
- Hemolytic anemia due to glucophosphate isomerase deficiency
- Hemolytic anemia due to red cell pyruvate kinase deficiency
- X-linked sideroblastic anemia and spinocerebellar ataxia
- Hereditary angioedema
- Peters anomaly
- Uhl anomaly

- Combined malonic and methylmalonic acidemia
- Vitamin B12-unresponsive methylmalonic acidemia
- Propionic acidemia
- Distal renal tubular acidosis
- 3-methylglutaconic aciduria type 7
- Argininosuccinic aciduria
- Formiminoglutamic aciduria
- Mevalonic aciduria
- Achromatopsia
- X-linked adrenoleukodystrophy
- X-linked agammaglobulinemia
- Oculocutaneous albinism type 2
- Oculocutaneous albinism type 4
- Alpha-thalassemia
- ALG1-CDG
- ALG8-CDG
- Familial primary localized cutaneous amyloidosis
- Congenital dyserythropoietic anemia type
- Sickle cell anemia
- Hemolytic anemia due to pyrimidine 5' nucleotidase deficiency
- X-linked sideroblastic anemia
- Enteric anendocrinosis
- Distal anoctaminopathy
- Rieger anomaly



- 46,XY disorder of sex developmentadrenal insufficiency due to CYP11A1 deficiency
- Aplasia of lacrimal and salivary glands
- Systemic-onset juvenile idiopathic arthritis
- Distal arthrogryposis type 5D
- VACTERL/VATER association
- Autosomal recessive ataxia due to ubiquinone deficiency
- Adult-onset autosomal recessive cerebellar ataxia
- Non-progressive cerebellar ataxia with intellectual disability
- Autosomal dominant spastic ataxia type 1
- Spinocerebellar ataxia with axonal neuropathy type 1
- Infantile-onset spinocerebellar ataxia
- Spinocerebellar ataxia type 19/22
- Spinocerebellar ataxia type 28
- Multiple intestinal atresia
- Autosomal dominant congenital benign spinal muscular atrophy
- Scapuloperoneal spinal muscular atrophy
- Congenital bilateral absence of vas deferens
- Beta-mannosidosis
- Bradyopsia
- Nasopharyngeal carcinoma
- Cystinuria
- Keratosis follicularis spinulosa decalvans
- COG5-CDG
- Neonatal intrahepatic cholestasis due to citrin deficiency
- Metaphyseal chondrodysplasia, Spahr type
- Infantile convulsions and choreoathetosis
- Cranio-osteoarthropathy
- Autosomal recessive cutis laxa type 1

- Isolated congenital anonychia
- Cerebral autosomal dominant arteriopathy-subcortical infarcts-leukoencephalopathy
- Distal arthrogryposis type 1
- Progressive pseudorheumatoid arthropathy of childhood
- Aspartylglucosaminuria
- Autosomal recessive ataxia, Beauce type
- Autosomal recessive cerebellar ataxia due to CWF19L1 deficiency
- X-linked progressive cerebellar ataxia
- Spinocerebellar ataxia with epilepsy
- Spinocerebellar ataxia with axonal neuropathy type 2
- Spinocerebellar ataxia type 13
- Spinocerebellar ataxia type 21
- Ataxia-oculomotor apraxia type 1
- Gyrate atrophy of choroid and retina
- Spinal muscular atrophy with respiratory distress type 1
- Autosomal dominant childhood-onset proximal spinal muscular atrophy
- Autosomal recessive bestrophinopathy
- Beta-thalassemia
- Autosomal dominant brachyolmia
- Familial papillary or follicular thyroid carcinoma
- Citrullinemia type I
- COG4-CDG
- Progressive familial intrahepatic cholestasis
- Tuberous sclerosis complex
- X-linked dominant chondrodysplasia punctata
- Paroxysmal dystonic choreathetosis with episodic ataxia and spasticity
- Hereditary cryohydrocytosis with reduced stomatin
- Autosomal recessive cutis laxa type 2A



- Autosomal recessive cutis laxa type 2B
- Congenital bile acid synthesis defect type
   1
- Isolated cytochrome C oxidase deficiency
- Isolated complex III deficiency
- Combined oxidative phosphorylation defect type 15
- Combined oxidative phosphorylation defect type 8
- Congenital fibrinogen deficiency
- Congenital factor V deficiency
- Congenital factor XIII deficiency
- 3-hydroxy-3-methylglutaryl-CoA synthase deficiency
- Acyl-CoA dehydrogenase 9 deficiency
- Medium chain acyl-CoA dehydrogenase deficiency
- Adenylosuccinate lyase deficiency
- Aromatase deficiency
- Beta-ureidopropionase deficiency
- Butyrylcholinesterase deficiency
- Carnitine palmitoyl transferase 1A deficiency
- Carnitine-acylcarnitine translocase deficiency
- Fatal infantile cytochrome C oxidase deficiency
- Dimethylglycine dehydrogenase deficiency
- Fructose-1,6-bisphosphatase deficiency
- Glutaryl-CoA dehydrogenase deficiency
- Guanidinoacetate methyltransferase deficiency
- LCAT deficiency
- Lipoyl transferase 1 deficiency
- Myeloperoxidase deficiency
- Alpha-N-acetylgalactosaminidase deficiency
- Pyruvate carboxylase deficiency, benign type
- Prolidase deficiency

- DDOST-CDG
- Congenital bile acid synthesis defect type
- Isolated complex I deficiency
- Non-acquired isolated growth hormone deficiency
- Combined oxidative phosphorylation defect type 20
- Congenital intrinsic factor deficiency
- Congenital sucrase-isomaltase deficiency
- Congenital factor XI deficiency
- 3-phosphoglycerate dehydrogenase deficiency, infantile/juvenile form
- Long chain 3-hydroxyacyl-CoA dehydrogenase deficiency
- Short chain acyl-CoA dehydrogenase deficiency
- Very long chain acyl-CoA dehydrogenase deficiency
- Alpha-1-antitrypsin deficiency
- Beta-ketothiolase deficiency
- Biotinidase deficiency
- Carbamoyl-phosphate synthetase 1 deficiency
- Carnitine palmitoyltransferase II deficiency
- Cernunnos-XLF deficiency
- Dihydropyrimidine dehydrogenase deficiency
- Dopamine beta-hydroxylase deficiency
- Class I glucose-6-phosphate dehydrogenase deficiency
- Glutathione synthetase deficiency
- Holocarboxylase synthetase deficiency
- Lysosomal acid lipase deficiency
- Homocystinuria without methylmalonic aciduria
- Monoamine oxidase A deficiency
- Ornithine transcarbamylase deficiency
- Pyruvate dehydrogenase deficiency



- Mitochondrial trifunctional protein deficiency
- Purine nucleoside phosphorylase deficiency
- Succinyl-CoA:3-oxoacid CoA transferase deficiency
- Multiple acyl-CoA dehydrogenase deficiency
- Combined pituitary hormone deficiencies, genetic forms
- Brain demyelination due to methionine adenosyltransferase deficiency
- Desmosterolosis
- Nephrogenic diabetes insipidus
- Congenital sodium diarrhea
- Dihydropyrimidinuria
- Severe intellectual disability and progressive spastic paraplegia
- X-linked intellectual disability, Cabezas type
- X-linked intellectual disability, Najm type
- Intellectual disability, Birk-Barel type
- Paroxysmal exertion-induced dyskinesia
- Cortical dysgenesis with pontocerebellar hypoplasia due to TUBB3 mutation
- Postaxial acrofacial dysostosis
- Cerebrofaciothoracic dysplasia
- Craniofrontonasal dysplasia
- Singleton-Merten dysplasia
- Hidrotic ectodermal dysplasia
- Multiple epiphyseal dysplasia, Beighton type
- Spondyloepimetaphyseal dysplasia, PAPSS2 type
- Spondyloepimetaphyseal dysplasia with multiple dislocations
- Acromelic frontonasal dysplasia
- Schimke immuno-osseous dysplasia
- Otospondylomegaepiphyseal dysplasia
- FLNA-related X-linked myxomatous valvular dysplasia
- Dopa-responsive dystonia due to sepiapterin reductase deficiency
- Adult-onset dystonia-parkinsonism

- Pterin-4 alpha-carbinolamine dehydratase deficiency
- S-adenosylhomocysteine hydrolase deficiency
- Familial glucocorticoid deficiency
- Systemic primary carnitine deficiency
- Infantile cerebellar-retinal degeneration
- Desminopathy
- Maternally-inherited diabetes and deafness
- Congenital chloride diarrhea
- Syndromic diarrhea
- Familial dysautonomia
- Syndromic X-linked intellectual disability due to JARID1C mutation
- X-linked intellectual disability, Snyder type
- 2q23.1 microdeletion syndrome
- Familial dyskinesia and facial myokymia
- Familial aortic dissection
- X-linked complicated corpus callosum dysgenesis
- Acromicric dysplasia
- FGFR2-related bent bone dysplasia
- Non-epidermolytic palmoplantar keratoderma
- Diastrophic dysplasia
- Hypohidrotic ectodermal dysplasia
- Spondyloepiphyseal dysplasia congenita
- Spondyloepiphyseal dysplasia, Stanescu type
- Spondyloepimetaphyseal dysplasia congenita, Strudwick type
- Gnathodiaphyseal dysplasia
- Odonto-onycho-dermal dysplasia
- Thanatophoric dysplasia
- Familial isolated arrhythmogenic right ventricular dysplasia
- Early-onset generalized limb-onset dystonia
- Reis Bücklers corneal dystrophy



- Granular corneal dystrophy type II
- Lattice corneal dystrophy type I
- Congenital hereditary endothelial dystrophy type II
- Congenital muscular dystrophy with cerebellar involvement
- Congenital muscular dystrophy, Ullrich type
- Becker muscular dystrophy
- DNAJB6-related limb-girdle muscular dystrophy D1
- Titin-related limb-girdle muscular dystrophy R10
- Anoctamin-5-related limb-girdle muscular dystrophy R12
- GMPPB-related limb-girdle muscular dystrophy R19
- Alpha-sarcoglycan-related limb-girdle muscular dystrophy R3
- Gamma-sarcoglycan-related limb-girdle muscular dystrophy R5
- FKRP-related limb-girdle muscular dystrophy R9
- Tibial muscular dystrophy
- Infantile neuroaxonal dystrophy
- Progressive cone dystrophy
- Best vitelliform macular dystrophy
- Isolated ectopia lentis
- Mitochondrial neurogastrointestinal encephalomyopathy
- Early infantile epileptic encephalopathy
- Severe neonatal-onset encephalopathy with microcephaly
- Glycine encephalopathy
- Central core disease
- Addison disease
- Glycogen storage disease due to glycogen debranching enzyme deficiency
- Glycogen storage disease due to muscle phosphofructokinase deficiency
- Glycogen storage disease due to liver phosphorylase kinase deficiency
- Glycogen storage disease due to liver glycogen phosphorylase deficiency

- Granular corneal dystrophy type I
- Bietti crystalline dystrophy
- Benign concentric annular macular dystrophy
- Congenital muscular dystrophy with integrin alpha-7 deficiency
- Congenital muscular dystrophy due to LMNA mutation
- Autosomal dominant limb-girdle muscular dystrophy type 1A
- Calpain-3-related limb-girdle muscular dystrophy R1
- POMT1-related limb-girdle muscular dystrophy R11
- POMT2-related limb-girdle muscular dystrophy R14
- Dysferlin-related limb-girdle muscular dystrophy R2
- Beta-sarcoglycan-related limb-girdle muscular dystrophy R4
- Telethonin-related limb-girdle muscular dystrophy R7
- Duchenne muscular dystrophy
- Muscular dystrophy, Selcen type
- Butterfly-shaped pigment dystrophy
- Bothnia retinal dystrophy
- DPM1-CDG
- Microcephalic osteodysplastic primordial dwarfism type II
- KCNQ2-related epileptic encephalopathy
- Ethylmalonic encephalopathy
- Encephalopathy due to sulfite oxidase deficiency
- STAT3-related early-onset multisystem autoimmune disease
- Juvenile neuronal ceroid lipofuscinosis
- Alexander disease
- Glycogen storage disease due to glycogen branching enzyme deficiency
- Glycogen storage disease due to phosphoglycerate mutase deficiency
- Glycogen storage disease due to liver and muscle phosphorylase kinase deficiency
- Glycogen storage disease due to muscle glycogen phosphorylase deficiency



- Glycogen storage disease due to hepatic glycogen synthase deficiency
- Canavan disease
- Autosomal dominant Charcot-Marie-Tooth disease type 2D
- X-linked Charcot-Marie-Tooth disease type 5
- Charcot-Marie-Tooth disease type 1D
- Autosomal dominant Charcot-Marie-Tooth disease type 2N
- SURF1-related Charcot-Marie-Tooth disease type 4
- Charcot-Marie-Tooth disease type 4C
- Charcot-Marie-Tooth disease type 4J
- Sporadic Creutzfeldt-Jakob disease
- Dent disease
- Fabry disease
- Hirschsprung disease
- Lafora disease
- Menkes disease
- Niemann-Pick disease type A
- Niemann-Pick disease type C
- Oguchi disease
- Refsum disease
- Sandhoff disease
- Tangier disease
- Thomsen and Becker disease
- Von Willebrand disease type 1
- Von Willebrand disease type 3
- Fatal mitochondrial disease due to combined oxidative phosphorylation defect type 3
- Muscle-eye-brain disease
- Glycogen storage disease due to LAMP-2 deficiency
- Glycogen storage disease due to acid maltase deficiency
- Autosomal dominant generalized dystrophic epidermolysis bullosa
- Dystrophic epidermolysis bullosa pruriginosa
- Intermediate epidermolysis bullosa simplex with cardiomyopathy

- Caffey disease
- Autosomal dominant Charcot-Marie-Tooth disease type 2A2
- X-linked Charcot-Marie-Tooth disease type 1
- Charcot-Marie-Tooth disease type 1B
- Charcot-Marie-Tooth disease type 2B5
- Charcot-Marie-Tooth disease type 2T
- Charcot-Marie-Tooth disease type 4A
- Charcot-Marie-Tooth disease type 4F
- Coats disease
- Crouzon disease
- Free sialic acid storage disease
- Gaucher disease
- Krabbe disease
- Leber plus disease
- Naxos disease
- Niemann-Pick disease type B
- Norrie disease
- Pelizaeus-Merzbacher disease
- Chylomicron retention disease
- Stargardt disease
- Tay-Sachs disease
- Von Hippel-Lindau disease
- Von Willebrand disease type 2A
- Wilson disease
- Rippling muscle disease
- Åland Islands eye disease
- Glycogen storage disease due to glucose
   -6-phosphatase deficiency
- Autosomal recessive polycystic kidney disease
- Recessive dystrophic epidermolysis bullosa inversa
- Junctional epidermolysis bullosa with pyloric atresia
- Autosomal dominant generalized epidermolysis bullosa simplex, severe form



- Autosomal dominant generalized epidermolysis bullosa simplex, intermediate form
- Juvenile myoclonic epilepsy
- Benign familial neonatal epilepsy
- Chuvash erythrocytosis
- Dehydrated hereditary stomatocytosis
- Familial atrial fibrillation
- Congenital fibrosis of extraocular muscles
- Phocomelia, Schinzel type
- Fucosidosis
- GM1 gangliosidosis
- Juvenile glaucoma
- Hemochromatosis type 2
- Mild hemophilia B
- Hepatoblastoma
- Hydrocephalus with stenosis of the aqueduct of Sylvius
- Phosphoribosylpyrophosphate synthetase superactivity
- Transient familial neonatal hyperbilirubinemia
- Autosomal dominant hyperinsulinism due to SUR1 deficiency
- Endosteal hyperostosis, Worth type
- Familial isolated hyperparathyroidism
- Malignant hyperthermia of anesthesia
- Hypochondroplasia
- X-linked hypophosphatemia
- Familial primary hypomagnesemia with hypercalciuria and nephrocalcinosis with severe ocular involvement
- Pontocerebellar hypoplasia type 10
- Pontocerebellar hypoplasia type 6
- X-linked adrenal hypoplasia congenita
- Hypothyroidism due to TSH receptor mutations
- Hereditary renal hypouricemia
- Homocystinuria due to methylene tetrahydrofolate reductase deficiency

- Autosomal dominant epilepsy with auditory features
- Progressive myoclonic epilepsy type 6
- Multiple self-healing squamous epithelioma
- Supravalvular aortic stenosis
- Phenylketonuria
- Idiopathic ventricular fibrillation, non Brugada type
- Cystic fibrosis
- Symptomatic form of hemochromatosis type 1
- Fundus albipunctatus
- MOGS-CDG
- Hawkinsinuria
- Mild hemophilia A
- Paroxysmal nocturnal hemoglobinuria
- Hepatoencephalopathy due to combined oxidative phosphorylation defect type 1
- Hb Bart's hydrops fetalis
- Familial hyperaldosteronism type I
- Hyperimmunoglobulinemia D with periodic fever
- Hyperinsulinism due to INSR deficiency
- Primary hyperoxaluria
- Heritable pulmonary arterial hypertension
- Familial hypoaldosteronism
- Hypophosphatasia
- Primary hypomagnesemia with secondary hypocalcemia
- Focal dermal hypoplasia
- Pontocerebellar hypoplasia type 2
- Pontocerebellar hypoplasia type 8
- Isolated optic nerve hypoplasia/aplasia
- Hypotonia with lactic acidemia and hyperammonemia
- Classic homocystinuria
- Harlequin ichthyosis



- Autosomal dominant epidermolytic ichthyosis
- Lamellar ichthyosis
- Incontinentia pigmenti
- Combined immunodeficiency with granulomatosis
- Severe combined immunodeficiency due to DCLRE1C deficiency
- Combined immunodeficiency due to partial RAG1 deficiency
- Immunodeficiency by defective expression of MHC class I
- Isolated cleft lip
- Acute lymphoblastic leukemia
- Acute myeloid leukemia
- RARS-related autosomal recessive hypomyelinating leukodystrophy
- Lymphangioleiomyomatosis
- Late infantile neuronal ceroid lipofuscinosis
- X-linked lissencephaly with abnormal genitalia
- Lissencephaly due to TUBA1A mutation
- Lysinuric protein intolerance
- MELAS
- Microlissencephaly
- Mitochondrial hypertrophic cardiomyopathy with lactic acidosis due to MTO1 deficiency
- Infantile myofibromatosis
- X-linked centronuclear myopathy
- Polyglucosan body myopathy type 2
- Congenital fiber-type disproportion myopathy
- Miyoshi myopathy
- Laing early-onset distal myopathy
- GNE myopathy

- Exfoliative ichthyosis
- Recessive X-linked ichthyosis
- Male infertility due to large-headed multiflagellar polyploid spermatozoa
- Severe combined immunodeficiency due to adenosine deaminase deficiency
- T-B+ severe combined immunodeficiency due to gamma chain deficiency
- Immunodeficiency due to a late component of complement deficiency
- Acute infantile liver failure due to synthesis defect of mtDNA-encoded proteins
- Leprechaunism
- B-cell chronic lymphocytic leukemia
- Juvenile myelomonocytic leukemia
- Hereditary diffuse leukoencephalopathy with axonal spheroids and pigmented glia
- Familial partial lipodystrophy, Dunnigan type
- ATP13A2-related juvenile neuronal ceroid lipofuscinosis
- Lissencephaly due to LIS1 mutation
- Lissencephaly type 1 due to doublecortin gene mutation
- Malaria
- Metachondromatosis
- Infantile hypertrophic cardiomyopathy due to MRPL44 deficiency
- Familial isolated restrictive cardiomyopathy
- Autosomal dominant centronuclear myopathy
- X-linked myopathy with excessive autophagy
- Reducing body myopathy
- Bethlem myopathy
- Distal myopathy with anterior tibial onset
- Progressive scapulohumeroperoneal distal myopathy
- Hereditary myopathy with early respiratory failure



- Mitochondrial myopathy with reversible cytochrome C oxidase deficiency
- Severe congenital nemaline myopathy
- Potassium-aggravated myotonia
- Complete hydatidiform mole
- Mucolipidosis type III
- Mucopolysaccharidosis type 2
- Mucopolysaccharidosis type 4
- Mucopolysaccharidosis type 7
- Mitochondrial membrane proteinassociated neurodegeneration
- Neurofibromatosis-Noonan syndrome
- Autosomal recessive axonal neuropathy with neuromyotonia
- Autosomal recessive severe congenital neutropenia due to CSF3R deficiency
- Woolly hair nevus
- Obesity due to melanocortin 4 receptor deficiency
- Hypertrichotic osteochondrodysplasia, Cantu type
- Osteopetrosis with renal tubular acidosis
- Osteosarcoma
- Non-acquired panhypopituitarism
- Pachyonychia congenita
- Paramyotonia congenita of Von Eulenburg
- Autosomal dominant spastic paraplegia type 17
- Autosomal dominant spastic paraplegia type 8
- Autosomal recessive spastic paraplegia type 35
- Autosomal recessive spastic paraplegia type 56
- Spastic paraplegia type 2
- Pycnodysostosis
- PMM2-CDG
- Polymicrogyria due to TUBB2B mutation
- Syndactyly type 2
- Acute intermittent porphyria

- Multiminicore myopathy
- Inclusion body myopathy with Paget disease of bone and frontotemporal dementia
- MODY
- MPI-CDG
- Mucopolysaccharidosis type 1
- Mucopolysaccharidosis type 3
- Mucopolysaccharidosis type 6
- Multiple endocrine neoplasia type 2
- Neurofibromatosis type 6
- Navajo neurohepatopathy
- Leber hereditary optic neuropathy
- Autosomal recessive severe congenital neutropenia due to JAGN1 deficiency
- Obesity due to leptin receptor gene deficiency
- Autosomal recessive progressive external ophthalmoplegia
- Multiple osteochondromas
- Albers-Schönberg osteopetrosis
- Hereditary chronic pancreatitis
- Pachydermoperiostosis
- Hypokalemic periodic paralysis
- Autosomal dominant spastic paraplegia type 10
- Autosomal dominant spastic paraplegia type 31
- Autosomal recessive spastic paraplegia type 15
- Autosomal recessive spastic paraplegia type 54
- Autosomal recessive spastic paraplegia type 5A
- Spastic paraplegia type 7
- Familial clubfoot with or without associated lower limb anomalies
- Bilateral polymicrogyria
- Autosomal recessive spastic ataxia of Charlevoix-Saguenay
- Porencephaly
- Hepatoerythropoietic porphyria



- Congenital erythropoietic porphyria
- Autosomal erythropoietic protoporphyria
- Pseudopseudohypoparathyroidism
- Thrombotic thrombocytopenic purpura
- Autosomal dominant focal nonepidermolytic palmoplantar keratoderma with plantar blistering
- Palmoplantar keratoderma, Nagashima type
- Keratoderma hereditarium mutilans
- Autosomal dominant hypophosphatemic rickets
- Resistance to thyroid hormone due to a mutation in thyroid hormone receptor beta
- X-linked retinoschisis
- 3M syndrome
- ADNP syndrome
- Auriculocondylar syndrome
- BOR syndrome
- Branchiootic syndrome
- Cardiofaciocutaneous syndrome
- CHILD syndrome
- Congenital vertebral-cardiac-renal anomalies syndrome
- Heart-hand syndrome, Slovenian type
- Adams-Oliver syndrome
- Aicardi-Goutières syndrome
- Alazami syndrome
- Alpers-Huttenlocher syndrome
- Thiamine-responsive megaloblastic anemia syndrome
- Angelman syndrome
- Palatal anomalies-widely spaced teethfacial dysmorphism-developmental delay syndrome
- Apert syndrome
- Progeroid and marfanoid aspectlipodystrophy syndrome

- Lipoid proteinosis
- Pseudohypoparathyroidism type 1C
- Familial male-limited precocious puberty
- Striate palmoplantar keratoderma
- Isolated focal non-epidermolytic palmoplantar keratoderma
- Transgrediens et progrediens palmoplantar keratoderma
- Hypocalcemic vitamin D-dependent rickets
- Hereditary hypophosphatemic rickets with hypercalciuria
- Retinoblastoma
- Sebocystomatosis
- Acrocallosal syndrome
- ADULT syndrome
- Autosomal dominant intellectual disability-craniofacial anomalies-cardiac defects syndrome
- Branchio-oculo-facial syndrome
- CACH syndrome
- CHARGE syndrome
- Classic glucose transporter type 1 deficiency syndrome
- Constitutional mismatch repair deficiency syndrome
- Aarskog-Scott syndrome
- Corpus callosum agenesis-neuronopathy syndrome
- Alagille syndrome
- Allan-Herndon-Dudley syndrome
- Andersen-Tawil syndrome
- Aneurysm-osteoarthritis syndrome
- Anophthalmia/microphthalmiaesophageal atresia syndrome
- Antley-Bixler syndrome
- Pyogenic arthritis-pyoderma gangrenosum-acne syndrome
- Cerebellar ataxia-areflexia-pes cavusoptic atrophy-sensorineural hearing loss syndrome



- Autosomal recessive cerebellar ataxiaepilepsy-intellectual disability syndrome due to WWOX deficiency
- Ataxia-intellectual disability-oculomotor apraxia-cerebellar cysts syndrome
- Autosomal dominant optic atrophy plus syndrome
- Barth syndrome
- Beta-thalassemia-X-linked thrombocytopenia syndrome
- Blau syndrome
- Borjeson-Forssman-Lehmann syndrome
- Bruck syndrome
- Carney-Stratakis syndrome
- Congenital cataract-progressive muscular hypotonia-hearing loss-developmental delay syndrome
- Chédiak-Higashi syndrome
- Chudley-McCullough syndrome
- Coffin-Lowry syndrome
- Lethal congenital contracture syndrome type 1
- Cornelia de Lange syndrome
- Recurrent metabolic encephalomyopathic crisesrhabdomyolysis-cardiac arrhythmiaintellectual disability syndrome
- De Barsy syndrome
- Denys-Drash syndrome
- Mitochondrial DNA depletion syndrome, hepatocerebral form due to DGUOK deficiency
- Dysequilibrium syndrome
- TBCK-related intellectual disability syndrome
- X-linked intellectual disability-cerebellar hypoplasia syndrome
- X-linked intellectual disability-Dandy-Walker malformation-basal ganglia disease-seizures syndrome
- Intellectual disability-expressive aphasiafacial dysmorphism syndrome
- Intellectual disability-seizureshypophosphatasia-ophthalmic-skeletal anomalies syndrome

- Early-onset spastic ataxia-myoclonic epilepsy-neuropathy syndrome
- Spinal muscular atrophy-progressive myoclonic epilepsy syndrome
- Optic atrophy-intellectual disability syndrome
- Bartter syndrome
- Björnstad syndrome
- Bohring-Opitz syndrome
- Bosley-Salih-Alorainy syndrome
- Brugada syndrome
- Carvajal syndrome
- Congenital cataract-hypertrophic cardiomyopathy-mitochondrial myopathy syndrome
- Christianson syndrome
- Cockayne syndrome
- Atrial septal defect-atrioventricular conduction defects syndrome
- Autosomal recessive chorioretinopathymicrocephaly syndrome
- Costello syndrome
- Crouzon syndrome-acanthosis nigricans syndrome
- DEND syndrome
- Mitochondrial DNA depletion syndrome, encephalomyopathic form
- Acral peeling skin syndrome
- Cognitive impairment-coarse facies-heart defects-obesity-pulmonary involvementshort stature-skeletal dysplasia syndrome
- Severe intellectual disability-progressive spastic diplegia syndrome
- X-linked intellectual disability-hypotoniamovement disorder syndrome
- X-linked intellectual disability-psychosismacroorchidism syndrome
- Intellectual disability-cataracts-calcified pinnae-myopathy syndrome
- Intellectual disability-macrocephalyhypotonia-behavioral abnormalities syndrome



- Intellectual disability-severe speech delay-mild dysmorphism syndrome
- CNTNAP2-related developmental and epileptic encephalopathy
- Spondylometaphyseal dysplasia-conerod dystrophy syndrome
- Corneal dystrophy-perceptive deafness syndrome
- Dravet syndrome
- Dyggve-Melchior-Clausen disease
- Hypermobile Ehlers-Danlos syndrome
- Periodontal Ehlers-Danlos syndrome
- Neonatal encephalomyopathycardiomyopathy-respiratory distress syndrome
- Progressive epilepsy-intellectual disability syndrome, Finnish type
- Gingival fibromatosis-hypertrichosis syndrome
- Bloom's Syndrome
- Gerstmann-Straussler-Scheinker syndrome
- Hermansky-Pudlak syndrome due to BLOC-3 deficiency
- Hydrops-lactic acidosis-sideroblastic anemia-multisystemic failure syndrome
- Autosomal dominant hyper-IgE syndrome
- Hyperinsulinism-hyperammonemia syndrome
- Hypoplastic pancreas-intestinal atresiahypoplastic gallbladder syndrome
- Hypotonia-speech impairment-severe cognitive delay syndrome
- Hutchinson-Gilford progeria syndrome
- Ichthyosis-prematurity syndrome
- Early-onset seizures-distal limb anomalies-facial dysmorphism-global developmental delay syndrome
- Partial androgen insensitivity syndrome
- Jackson-Weiss syndrome
- Johanson-Blizzard syndrome
- Joubert syndrome with ocular defect

- Multiple mitochondrial dysfunctions syndrome type 4
- Spondyloperipheral dysplasia-short ulna syndrome
- Corneal intraepithelial dyskeratosispalmoplantar hyperkeratosis-laryngeal dyskeratosis syndrome
- Donnai-Barrow syndrome
- Dubin-Johnson syndrome
- Cardiac-valvular Ehlers-Danlos syndrome
- Musculocontractural Ehlers-Danlos syndrome
- Vascular Ehlers-Danlos syndrome
- Interstitial lung disease-nephrotic syndrome-epidermolysis bullosa syndrome
- Female restricted epilepsy with intellectual disability
- Floating-Harbor syndrome
- Frasier syndrome
- Gitelman syndrome
- Hermansky-Pudlak syndrome due to BLOC-2 deficiency
- Hyper-IgM syndrome with susceptibility to opportunistic infections
- Hyperphosphatasia-intellectual disability syndrome
- Hypohidrosis-enamel hypoplasiapalmoplantar keratoderma-intellectual disability syndrome
- Pancreatic hypoplasia-diabetescongenital heart disease syndrome
- Holt-Oram syndrome
- Ichthyosis follicularis-alopeciaphotophobia syndrome
- Imerslund-Gräsbeck syndrome
- Complete androgen insensitivity syndrome
- Acute infantile liver failure-multisystemic involvement syndrome
- Jeune syndrome
- Joubert syndrome with hepatic defect
- Joubert syndrome with oculorenal defect



- Kabuki syndrome
- Stiff skin syndrome
- Leigh syndrome with nephrotic syndrome
- Leukoencephalopathy with brain stem and spinal cord involvement-high lactate syndrome
- Leukoencephalopathy-dystonia-motor neuropathy syndrome
- Loeys-Dietz syndrome
- Macrocephaly-intellectual disability-left ventricular non compaction syndrome
- Lethal fetal brain malformation-duodenal atresia-bilateral renal hypoplasia syndrome
- Marfan syndrome
- Marshall syndrome
- McKusick-Kaufman syndrome
- Goldberg-Shprintzen megacolon syndrome
- Megalencephaly-capillary malformationpolymicrogyria syndrome
- Familial atypical multiple mole melanoma syndrome
- Postnatal microcephaly-infantile hypotonia-spastic diplegia-dysarthria-intellectual disability syndrome
- Microcephaly-corpus callosum hypoplasia-intellectual disability-facial dysmorphism syndrome
- Microcephaly-capillary malformation syndrome
- Colobomatous microphthalmiarhizomelic dysplasia syndrome
- Early-onset myopathy-areflexiarespiratory distress-dysphagia syndrome
- Mowat-Wilson syndrome
- Muir-Torre syndrome
- Myhre syndrome
- Nance-Horan syndrome
- Peripheral neuropathy-myopathyhoarseness-hearing loss syndrome
- Omenn syndrome

- Hypoxanthine guanine phosphoribosyltransferase partial deficiency
- Leigh syndrome
- Lesch-Nyhan syndrome
- Leukoencephalopathy-thalamus and brainstem anomalies-high lactate syndrome
- Lissencephaly syndrome, Norman-Roberts type
- Macrocephaly-intellectual disabilityautism syndrome
- Macrothrombocytopenia-lymphedemadevelopmental delay-facial dysmorphism-camptodactyly syndrome
- 3MC syndrome
- Marinesco Sjogren syndrome
- McCune-Albright syndrome
- Meacham syndrome
- Megalencephaly-severe kyphoscoliosisovergrowth syndrome
- Megalencephaly-polymicrogyriapostaxial polydactyly-hydrocephalus syndrome
- Congenital microcephaly-severe encephalopathy-progressive cerebral atrophy syndrome
- Macrocephaly-intellectual disabilityneurodevelopmental disorder-small thorax syndrome
- Microcephaly-lymphedemachorioretinopathy syndrome
- 5q14.3 microdeletion syndrome
- Action myoclonus-renal failure syndrome
- Mohr-Tranebjaerg syndrome
- Muckle-Wells syndrome
- Mulibrey nanism
- Nager syndrome
- Netherton syndrome
- Noonan syndrome with multiple lentigines
- Opitz GBBB syndrome



- Ear-patella-short stature syndrome
- Osteoporosis-pseudoglioma syndrome
- Early-onset parkinsonism-intellectual disability syndrome
- Perry syndrome
- Peutz-Jeghers syndrome
- Pierson syndrome
- Short rib-polydactyly syndrome, Majewski type
- Autosomal recessive multiple pterygium syndrome
- Familial short QT syndrome
- Resistance to thyrotropin-releasing hormone syndrome
- Retinitis pigmentosa-juvenile cataractshort stature-intellectual disability syndrome
- Global developmental delay-neuroophthalmological abnormalities-seizuresintellectual disability syndrome
- Autosomal dominant Robinow syndrome
- Rotor syndrome
- Schinzel-Giedion syndrome
- Senior-Boichis syndrome
- Shprintzen-Goldberg syndrome
- Simpson-Golabi-Behmel syndrome
- Smith-Lemli-Opitz syndrome
- Stickler syndrome
- Short stature-pituitary and cerebellar defects-small sella turcica syndrome
- Spastic tetraplegia-thin corpus callosumprogressive postnatal microcephaly syndrome
- Arterial tortuosity syndrome
- Noonan syndrome-like disorder with loose anagen hair
- Vici syndrome
- Wiedemann-Steiner syndrome
- Wolcott-Rallison syndrome
- Carney complex-trismuspseudocamptodactyly syndrome

- Osteopathia striata-cranial sclerosis syndrome
- Pancytopenia-developmental delay syndrome
- Pendred syndrome
- Peters plus syndrome
- Pfeiffer syndrome
- Pitt-Hopkins syndrome
- Serrated polyposis syndrome
- Autosomal dominant popliteal pterygium syndrome
- Palmoplantar keratoderma-deafness syndrome
- Insulin-resistance syndrome type A
- Growth and developmental delayhypotonia-vision impairment-lactic acidosis syndrome
- Rett syndrome
- Rothmund-Thomson syndrome
- Rubinstein-Taybi syndrome
- Scott syndrome
- Sheldon-Hall syndrome
- Shwachman-Diamond syndrome
- Sjögren Larsson syndrome
- Steel syndrome
- Short stature-brachydactyly-obesityglobal developmental delay syndrome
- Tatton-Brown-Rahman syndrome
- Toriello-Lacassie-Droste syndrome
- Neurodevelopmental disordercraniofacial dysmorphism-cardiac defect-skeletal anomalies syndrome
- Renal tubulopathy-encephalopathy-liver failure syndrome
- Wiedemann-Rautenstrauch syndrome
- Wiskott-Aldrich syndrome
- Wolfram syndrome
- Isolated cloverleaf skull syndrome



- Occipital horn syndrome
- Linear nevus sebaceus syndrome
- Neurogenic scapuloperoneal syndrome, Kaeser type
- Familial hyperphosphatemic tumoral calcinosis/Hyperphosphatemic hyperostosis syndrome
- Atypical hemolytic uremic syndrome
- KID syndrome
- MASA syndrome
- Micro syndrome
- Nephrogenic syndrome of inappropriate antidiuresis
- PRUNE1-related neurological syndrome
- Oculocerebrorenal syndrome of Lowe
- Orofaciodigital syndrome type 4
- Otopalatodigital syndrome type 2
- RAPADILINO syndrome
- Congenital intrauterine infection-like syndrome
- Wolfram-like syndrome
- Triple A syndrome
- Sitosterolemia
- Short stature due to GHSR deficiency
- Catecholaminergic polymorphic ventricular tachycardia
- Tyrosinemia type 1
- TELO2-related intellectual disabilityneurodevelopmental disorder
- ITPA-related lethal infantile neurological disorder with cataract and cardiac involvement
- Noonan syndrome-like disorder with juvenile myelomonocytic leukemia
- Carney triad
- Glanzmann thrombasthenia
- Paris-Trousseau thrombocytopenia

- Lateral meningocele syndrome
- EEC syndrome
- Enamel-renal syndrome
- H syndrome
- Hydrolethalus
- Lacrimoauriculodentodigital syndrome
- MEGDEL syndrome
- Multisystemic smooth muscle dysfunction syndrome
- Congenital nephrotic syndrome, Finnish type
- Oculocerebrofacial syndrome, Kaufman type
- Orofaciodigital syndrome type 14
- Orofaciodigital syndrome type 5
- Tumor necrosis factor receptor 1 associated periodic syndrome
- SHORT syndrome
- NPHP3-related Meckel-like syndrome
- Larsen-like syndrome, B3GAT3 type
- Spondylocarpotarsal synostosis
- Deafness with labyrinthine aplasia, microtia, and microdontia
- Microcephalic cortical malformationsshort stature due to RTTN deficiency
- Hereditary hemorrhagic telangiectasia
- 46,XY disorder of sex development due to 17-beta-hydroxysteroid dehydrogenase 3 deficiency
- Lethal acantholytic erosive disorder
- Familial progressive cardiac conduction defect
- Nijmegen breakage syndrome-like disorder
- Severe primary trimethylaminuria
- Congenital amegakaryocytic thrombocytopenia
- Severe hereditary thrombophilia due to congenital protein C deficiency



- Hereditary thrombophilia due to congenital antithrombin deficiency
- Familial cold urticaria
- STING-associated vasculopathy with onset in infancy
- Cerebrotendinous xanthomatosis

- Desmoid tumor
- Vasculitis due to ADA2 deficiency
- Hereditary xanthinuria
- Xeroderma pigmentosum

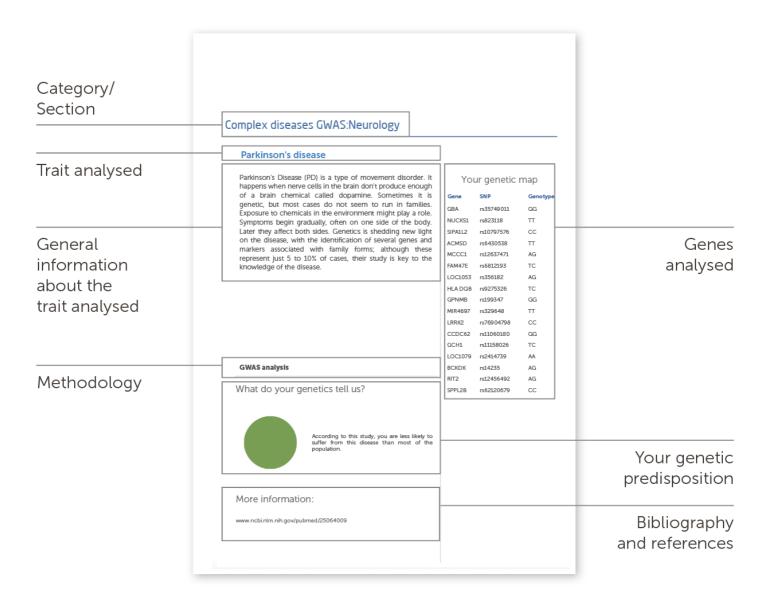
- We have not detected any pathogenic mutation but, since we only analyze a part of the gene, you could have some pathogenic mutation in the non-analyzed genetic regions.
- We have detected at least one mutation that could be pathogenic.





# 3. Genetic Results

# 3.1. How to understand your report?





#### Parkinson's disease

Parkinson's Disease (PD) is a type of movement disorder. It happens when nerve cells in the brain don't produce enough of a brain chemical called dopamine. Sometimes it is genetic, but most cases do not seem to run in families. Exposure to chemicals in the environment might play a role. Symptoms begin gradually, often on one side of the body. Later they affect both sides. Genetics is shedding new light on the disease, with the identification of several genes and markers associated with family forms; although these represent just 5 to 10% of cases, their study is key to the knowledge of the disease.

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you are less likely to suffer from this disease than most of the population.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/25064009

| SNP        | Genotype  |
|------------|---|
| rs35749011 | GG  |
| rs823118   | CC  |
| rs10797576 | CC  |
| rs6430538  | TC  |
| rs12637471 | AG  |
| rs6812193  | CC  |
| rs356182   | AA  |
| rs9275326  | CC  |
| rs199347   | AG  |
| rs329648   | TC  |
| rs76904798 | CC  |
| rs11060180 | AG  |
| rs11158026 | CC  |
| rs2414739  | AG  |
| rs14235    | GG  |
| rs12456492 | AA  |
| rs62120679 | TC  |
|            | rs35749011 rs823118 rs10797576 rs6430538 rs12637471 rs6812193 rs356182 rs9275326 rs199347 rs329648 rs76904798 rs11060180 rs11158026 rs2414739 rs14235 |



# Intracranial aneurysm

A brain aneurysm is an abnormal bulge or "ballooning" in the wall of an artery in the brain. They are sometimes called "berry aneurysms" because they are often the size of a small berry. Most brain aneurysms produce no symptoms until they become large, begin to leak blood, or burst.

If a brain aneurysm presses on nerves in your brain, it can cause signs and symptoms.

# Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| RP1     | rs9298506  | AA       |
| CDKN2B  | rs1333040  | CC       |
| CNNM2   | rs12413409 | GG       |
| STARD13 | rs9315204  | CC       |
| RBBP8   | rs11661542 | AA       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you are less likely to suffer from this disease than most of the population.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/20364137



#### **Motion sickness**

Motion sickness is a common problem in people traveling by car, train, airplanes and boats, especially. Anyone can suffer it, but it is more common in children, pregnant women, and people taking certain medicines. Motion sickness can start suddenly, causing a queasy feeling and cold sweats. It can then lead to dizziness, nausea and vomiting. Your brain senses movement by getting signals from your inner ears, eyes, muscles, and joints. When it receives signals that do not match, you can suffer from motion sickness. For example, if you are reading on your phone while riding a bus, your eyes are focused on something that is not moving, but your inner ear senses motion. Despite its high heritability, no associated genetic factors have been discovered. This section is based on a genome association study on motion sickness in 80,494 individuals who were surveyed about this pathology.

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, you are more likely to suffer from this disease than most of the population.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/25628336

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| PVRL3    | rs66800491  | AG       |
| GPD2     | rs56051278  | AG       |
| LINC0124 | rs10970305  | AC       |
| AUTS2    | rs1195218   | GG       |
| LINC026  | rs705145    | AA       |
| CBLN4    | rs6069325   | TT       |
| MUTED    | rs2153535   | GC       |
| LINGO2   | rs2150864   | AG       |
| CPNE4    | rs9834560   | AA       |
| LOC1019  | rs1858111   | AG       |
| PRDM16   | rs61759167  | TT       |
| NLGN1    | rs11713169  | AC       |
| HOXD3    | rs2551802   | GG       |
| COPS8    | rs2318131   | AC       |
| TLE4     | rs149951341 | AA       |
| HOXB3    | rs9906289   | CC       |
| ST18     | rs2360806   | AA       |
| SDK1     | rs4343996   | AG       |
| LINC009  | rs7170668   | TC       |
| CELF2    | rs10752212  | AG       |
| PDZRN4   | rs7957589   | AA       |
| MCTP2    | rs62018380  | CC       |
| ARAP2    | rs6833641   | CC       |
| AUTS2    | rs6946969   | AG       |
| RGS5     | rs4076764   | TT       |
| MAP2K5   | rs997295    | TT       |
| AGA      | rs1378552   | CC       |
| POU6F2   | rs60464047  | AT       |
| LINC0124 | rs1782032   | AG       |
| GXYLT2   | rs1847202   | TT       |
| SDK1     | rs34912216  | AG       |
|          |             |          |



### Alzheimer's disease (late onset)

Alzheimer's Disease (AD) is the most common form of dementia among older people. Dementia is a brain disorder that seriously affects a person's ability to carry out daily activities. AD begins slowly. It first involves the parts of the brain that control thought, memory and language. People with AD may have trouble remembering things that happened recently, or names of people they know. A related problem, Mild Cognitive Impairment (MCI), causes more memory problems than normal for people of the same age. Many, but not all, people with MCI will develop AD. This section analyses the predisposition to Late-Onset Alzheimer's.

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/24162737

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| CR1     | rs6656401  | GG       |
| LOC1053 | rs6733839  | TC       |
| CD2AP   | rs10948363 | AG       |
| EPHA1   | rs11771145 | AG       |
| CLU     | rs9331896  | TT       |
| MS4A6A  | rs983392   | AA       |
| PICALM  | rs10792832 | GG       |
| INPP5D  | rs35349669 | TC       |
| MEF2C   | rs190982   | AG       |
| NME8    | rs2718058  | AG       |
| ZCWPW1  | rs1476679  | TT       |
| CELF1   | rs10838725 | TC       |
| FERMT2  | rs17125944 | TT       |
| CASS4   | rs7274581  | TT       |
| HLA     | rs9271192  | AC       |
| PTK2B   | rs28834970 | TC       |
| SORL1   | rs11218343 | TT       |
| SLC24A4 | rs10498633 | TT       |
| SQSTM1  | rs72807343 | CC       |
| LOC1079 | rs9381040  | CC       |
| CD33    | rs3865444  | AC       |



# Multiple sclerosis

Multiple Sclerosis (MS) is a nervous system disease that affects your brain and spinal cord. It damages the myelin sheath, the material that surrounds and protects your nerve cells. This damage slows down or blocks messages between your brain and your body, leading to the symptoms of MS. These can include: visual disturbances, muscle weakness, trouble with coordination and balance, sensations such as numbness, prickling, "pins and needles", and thinking and memory problems. No one knows what causes MS. It may be an autoimmune disease, which happens when your immune system attacks healthy cells in your body by mistake. Multiple Sclerosis affects women more than men. It often begins between the ages of 20 and Epidemiological studies show that genetic factors are responsible for its occurrence, which explains the higher frequency of the disease in the relatives of affected people.

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/21833088

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| AGAP2    | rs12368653 | AG       |
| AHI1     | rs11154801 | CC       |
| BACH2    | rs12212193 | AG       |
| BATF     | rs2300603  | TC       |
| INAVA    | rs7522462  | AA       |
| TIMMDC1  | rs2293370  | AA       |
| LOC1053  | rs650258   | TC       |
| CD58     | rs1335532  | AA       |
| CD86     | rs9282641  | GG       |
| CHST12   | rs6952809  | TT       |
| CLECL1P  | rs10466829 | GG       |
| CXCR5    | rs630923   | CC       |
| CYP24A1  | rs2248359  | TT       |
| DDAH1    | rs233100   | GG       |
| DKKL1    | rs2303759  | TG       |
| DLEU1    | rs806321   | TC       |
| EOMES    | rs11129295 | TC       |
| EVI5     | rs11810217 | TT       |
| VCAM1    | rs12048904 | TT       |
| FCRL3    | rs3761959  | CC       |
| LINC0114 | rs2119704  | CC       |
| HHEX     | rs7923837  | GG       |
| IL12A    | rs2243123  | TT       |
| LOC2856  | rs2546890  | AA       |
| IL22RA2  | rs17066096 | AG       |
| IL7R     | rs6897932  | CC       |
| IRF8     | rs13333054 | CC       |
| MALT1    | rs7238078  | TT       |
| MAMSTR   | rs281380   | CC       |
| MAPK1    | rs2283792  | TT       |
| MERTK    | rs17174870 | CC       |
|          |            |          |



## Schizophrenia

Schizophrenia is a serious brain illness. People who have it may hear voices that aren't there. They may think other people are trying to hurt them. Sometimes they don't make sense when they talk. The disorder makes it hard for them to keep a job or take care of themselves. Symptoms of schizophrenia usually start between ages 16 and 30. Men often develop symptoms at a younger age than women. People usually do not develop schizophrenia after age 45.

#### **GWAS** analysis

## What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:

www.ncbi.nlm.nih.gov/pubmed/25056061

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| PLCH2   | rs4648845   | CC       |
| KDM4A   | rs11210892  | AA       |
| LOC1053 | rs12129573  | CC       |
| MIR137H | rs1702294   | CC       |
| FAM5B   | rs6670165   | CC       |
| MIR29B2 | rs7523273   | AA       |
| AKT3    | rs77149735  | GG       |
| FANCL   | rs11682175  | TC       |
| CYP26B1 | rs3768644   | GG       |
| PCGEM1  | rs59979824  | CC       |
| SATB2   | rs6704641   | AA       |
| GIGYF2  | rs6704768   | AA       |
| CNTN4   | rs17194490  | GG       |
| TRANK1  | rs75968099  | CC       |
| THOC7   | rs832187    | TT       |
| STAG1   | rs7432375   | GG       |
| CLCN3   | rs10520163  | TT       |
| GPM6A   | rs1106568   | AA       |
| HCN1    | rs1501357   | TC       |
| LINC020 | rs4391122   | AA       |
| MEF2C   | rs16867576  | AG       |
| MAN2A1  | rs4388249   | CC       |
| ETF1    | rs3849046   | TC       |
| GALNT10 | rs11740474  | TT       |
| RIMS1   | rs1339227   | CC       |
| FUT9    | rs117074560 | CC       |
| GRM3    | rs12704290  | GG       |
| SRPK2   | rs6466055   | AA       |
| IMMP2L  | rs13240464  | TC       |
| PODXL   | rs7801375   | GG       |
| DGKI    | rs3735025   | TC       |
|         |             |          |



### Neuroblastoma

Neuroblastoma is a cancer that forms in your nerve tissue. It usually begins in the adrenal glands, located above your kidneys. It may also begin in the neck, chest or spinal cord. The cancer often begins in early childhood. Sometimes it begins before a child is born. By the time doctors find the cancer, it has usually spread to other parts of the body.

## Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| HACE1   | rs4336470  | TC       |
| LIN28B  | rs17065417 | AA       |
| BARD1   | rs7587476  | CC       |
| CASC15  | rs9295536  | AC       |
| LMO1    | rs110419   | AG       |
| HSD17B1 | rs11037575 | TT       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



### **Conduct disorder**

Behavioural disorder is one of the most prevalent psychiatric disorders in children. The related symptoms have an important genetic component, whose heritability is estimated at 50%, and include aggression, rule-breaking, the harassment of other children, robberies, violence, etc. This disorder is a risk factor for future addictive behaviour. Different genetic variants have been associated with the risk of onset of this disorder.

## Your genetic map

| Gene      | SNP        | Genotype |
|-----------|------------|----------|
| C1QTNF7   | rs16891867 | AA       |
| PDE10A    | rs7762160  | TC       |
| TOX2      | rs6031252  | CC       |
| ERCC4     | rs3136202  | AG       |
| LOC1053   | rs4434872  | CC       |
| ARHGAP2   | rs10776612 | CC       |
| Intergeni | rs7950811  | CC       |
| LINC003   | rs11838918 | TT       |
| Intergeni | rs1256531  | AA       |
| LOC1079   | rs4792394  | AC       |
| Intergeni | rs13398848 | AA       |
| Intergeni | rs2184898  | GG       |
| RNF150    | rs1550057  | AA       |
| CC2D2A    | rs1861050  | CC       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you are less likely to suffer from this disease than most of the population.

## More information:



### Glioma

Glioma is a type of neoplasm that occurs in the brain or spinal cord. It is called glioma because it arises from glial cells. Its most frequent location is the brain.

# Your genetic map

| Gene   | SNP       | Genotype |
|--------|-----------|----------|
| TERT   | rs2736100 | AC       |
| TERT   | rs2853676 | CC       |
| CCDC26 | rs891835  | TG       |
| CCDC26 | rs4295627 | TT       |
| CDKN2B | rs4977756 | AG       |
| PHLDB1 | rs498872  | GG       |
| RTEL1  | rs6010620 | GG       |

### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



# **Primary biliary cirrhosis**

The bile ducts are tubes that move bile from the liver to the small intestine. Bile is a substance that facilitates digestion. All of the bile ducts together are called the biliary tract. When the bile ducts become swollen or inflamed, it blocks the flow of bile. The buildup of bile damages the liver cells and leads to scarring of the liver, called cirrhosis. This is called biliary cirrhosis.

Genetic susceptibility has been suggested, as well as the influence of environmental factors (infections, smoking, exposure to chemicals).

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you are less likely to suffer from this disease than most of the population.

### More information:

www.ncbi.nlm.nih.gov/pubmed/21399635

| Gene      | SNP        | Genotype |
|-----------|------------|----------|
| DENND1    | rs12134279 | CC       |
| NAB1      | rs10931468 | CC       |
| TIMMDC1   | rs2293370  | AA       |
| NFKB1     | rs7665090  | AG       |
| IL7R      | rs860413   | AA       |
| ELMO1     | rs6974491  | GG       |
| CXCR5     | rs6421571  | CC       |
| TNFRSF1   | rs1800693  | TT       |
| RAD51B    | rs911263   | TC       |
| CLEC16A   | rs12924729 | GG       |
| Intergeni | rs11117432 | AG       |
| MAP3K7I   | rs968451   | GG       |
| LINC0110  | rs485499   | TC       |
| MHC       | rs7774434  | TC       |
| TNPO3     | rs12531711 | AA       |
| FBXL20    | rs7208487  | TG       |
| SPIB      | rs3745516  | GG       |
| PLCL2     | rs1372072  | AG       |
| RPS6KA4   | rs538147   | GG       |
| EXOC3L4   | rs8017161  | AG       |



## Coronary heart disease

Coronary Heart Disease is a narrowing of the small blood vessels that supply blood and oxygen to the heart. Coronary Heart Disease (CHD) is also called coronary artery disease. CHD is the leading cause of death in the United States for men and women. CHD is caused by the buildup of plaque in the arteries to your heart. This may also be called "hardening of the arteries". Fatty material and other substances form a plaque buildup on the walls of your coronary arteries. The coronary arteries carry blood and oxygen to your heart. This buildup causes the arteries to narrow. As a result, blood flow to the heart can slow down or stop.

#### **GWAS** analysis

## What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:

www.ncbi.nlm.nih.gov/pubmed/21378990

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| PCSK9   | rs11206510 | TC       |
| CXCL12  | rs1746048  | CC       |
| PLPP3   | rs17114036 | AA       |
| ANKS1A  | rs17609940 | GG       |
| ZC3HC1  | rs11556924 | TT       |
| ABO     | rs579459   | TC       |
| CNNM2   | rs12413409 | GG       |
| ZPR1    | rs964184   | GC       |
| COL4A1  | rs4773144  | AA       |
| HHIPL1  | rs2895811  | TC       |
| ADAMTS7 | rs3825807  | AG       |
| SMG6    | rs216172   | GG       |
| RASD1   | rs12936587 | AG       |
| UBE2Z   | rs46522    | TT       |
| MIA3    | rs17465637 | AC       |
| WDR12   | rs6725887  | TT       |
| MRAS    | rs2306374  | TC       |
| LPA     | rs3798220  | TT       |
| CDKN2B  | rs4977574  | AG       |
| SH2B3   | rs3184504  | CC       |
| SMARCA  | rs1122608  | GG       |
| SLC5A3  | rs9982601  | CC       |
| INPP5D  | rs10933436 | AC       |
| BTD     | rs7651039  | TC       |
| ASZ1    | rs7808424  | TT       |
| SMG6    | rs1231206  | AG       |



## Myocardial infarction (early onset)

Myocardial infarction has a hereditary component and is among the leading causes of death and disability worldwide. While most cases occur in individuals older than 65, 5-10% occur in younger patients (men under 50 and women under 60). These cases are associated with a substantially greater heritability, so it is important to identify the genes responsible. A large-scale association study has found several genetic variants that increase the risk of early onset myocardial infarction.

## Your genetic map

| Gene   | SNP        | Genotype |
|--------|------------|----------|
| CDKN2B | rs4977574  | AG       |
| CELSR2 | rs646776   | TT       |
| MIA3   | rs17465637 | AC       |
| CXCL12 | rs1746048  | CC       |
| SLC5A3 | rs9982601  | CC       |
| WDR12  | rs6725887  | TT       |
| SMARCA | rs1122608  | GG       |
| PCSK9  | rs11206510 | TC       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



## Chronic lymphocytic leukemia

Leucemia is cancer of the white blood cells. White blood cells help your body fight infection. Your blood cells form in your bone marrow. In leucemia, the bone marrow produces abnormal white blood cells. These cells crowd out the healthy blood cells, making it hard for blood to do its work. In Chronic Lymphocytic Leucemia (CLL), there are too many lymphocytes, a type of white blood cell.

CLL is the second most common type of leucemia in adults. It often occurs during or after middle age, and is rare in children.

#### **GWAS** analysis

## What do your genetics tell us?



According to this study, you are more likely to suffer from this disease than most of the population.

### More information:

www.ncbi.nlm.nih.gov/pubmed/23770605

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| ACOXL   | rs17483466 | AG       |
| SP110   | rs13397985 | TG       |
| FARP2   | rs757978   | CC       |
| IRF4    | rs872071   | AG       |
| HLA     | rs9273363  | AA       |
| BAK1    | rs210142   | CC       |
| CASC19  | rs2466035  | TT       |
| GRAMD1  | rs735665   | GG       |
| LOC1053 | rs11636802 | AA       |
| RPLP1   | rs7176508  | AA       |
| IRF8    | rs391023   | TC       |
| BCL2    | rs4987852  | TT       |
| FAS     | rs4406737  | GG       |
| BCL2    | rs4987855  | CC       |
| TSPAN32 | rs7944004  | TG       |
| LEF1    | rs898518   | AA       |
| CASP8   | rs3769825  | AG       |
| AS1     | rs1679013  | TC       |
| PMAIP1  | rs4368253  | TC       |
| ACOXL   | rs13401811 | AG       |
| ODF1    | rs2511714  | GG       |



# Hodgkin's lymphoma

Hodgkin Lymphoma is a cancer of the lymphatic system produced by the germ cells of the B lymphocytes (defensive cells of the immune system). The incidence in our country is 30 new cases per million inhabitants per year. It features a bimodal distribution, affecting either the young, ages 15 to 35, or those well over 55. 60-70% of patients are asymptomatic, and cases are usually detected due to an increase in the volume of the lymph nodes. 45-60% of cases are associated with an Epstein-Barr virus infection.

# Your genetic map

| Gene  | SNP       | Genotype |
|-------|-----------|----------|
| EOMES | rs3806624 | GG       |
| HBS1L | rs7745098 | TT       |
| NR    | rs1432295 | GG       |
| GATA3 | rs501764  | TG       |
| PVT1  | rs2019960 | TT       |
| NR    | rs6903608 | TT       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you are more likely to suffer from this disease than most of the population.

### More information:



## Diffuse large B cell lymphoma

Diffuse Large B-cell Lymphoma (DLBCL) is a clinically aggressive B-cell (immune system) cancer and is the most common non-Hodgkin lymphoma. In some European countries the incidence of non-Hodgkin lymphoma is estimated at 12.3 cases per 100,000/year in men, whereas in women it is 10.8 cases. It is a disease of the elderly, with an average diagnosis age of around 70. Diagnosis in the early stages may improve prognosis. Family history is a risk factor.

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| NCOA1 | rs79480871 | CC       |
| HLA B | rs2523607  | TT       |
| PVT1  | rs13255292 | TC       |
| MYC   | rs4733601  | AA       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



## Follicular lymphoma

Follicular lymphoma is a form of non-Hodgkin lymphoma that is characterised by a proliferation of B cells with the nodular structure of the follicular architecture being preserved. The prevalence of follicular lymphoma is estimated at about 1/3,000. The average diagnosis age is 60 -65. The disease is extremely rare in children. Follicular lymphoma is found mainly in lymph nodes, but can also affect the spleen, bone marrow, peripheral blood and Waldeyer's ring. In exceptional cases the skin and central nervous system are affected.

## Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| HLA     | rs12195582 | CC       |
| CXCR5   | rs4938573  | TT       |
| LOC1053 | rs4937362  | TC       |
| LPP     | rs6444305  | AG       |
| BCL2    | rs17749561 | GG       |
| PVT1    | rs13254990 | CC       |
| SLC14A2 | rs11082438 | GG       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



#### Wilms tumor

Wilms Tumour is a rare type of kidney cancer. It causes a tumor on one or both kidneys. It usually affects children, but can occur in adults. Having certain genetic conditions, or birth defects, can increase the risk of contracting it. Children that are at risk should be screened for Wilms tumor every three months until they turn eight.

Symptoms include a lump in the abdomen, blood in the urine, and a fever for no reason. Tests that examine the kidney and blood are used to find the tumor.

## Your genetic map

| Gene    | SNP       | Genotype |
|---------|-----------|----------|
| DDX1    | rs3755132 | TT       |
| LOC1053 | rs1027643 | TC       |
| DLG2    | rs790356  | AG       |
| TCN2    | rs2283873 | GG       |
| NHS     | rs5955543 | AA       |
| MYCN    | rs807624  | TG       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



## Upper aerodigestive tract cancers

Cancer of the upper aerodigestive tract includes tumours of the oral cavity, pharynx, larynx, nasal cavity and paranasal sinuses, ear and salivary glands. Head and neck carcinoma is the most common among them, and has a high mortality rate (in Spain it is 37%). Alcohol and tobacco use are the main risk factors, although the human papilloma virus infection and family history also play an important role. A large-scale genetic association study has found genetic variants that increase risk of the disease.

## Your genetic map

| Gene  | SNP       | Genotype |
|-------|-----------|----------|
| ADH1B | rs1229984 | CC       |
| ADH7  | rs971074  | CC       |
| HELQ  | rs1494961 | TC       |
| NAA25 | rs4767364 | GG       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



# Chronic bronchitis and chronic obstructive pulmonary disease

Chronic Obstructive Pulmonary Disease (COPD) is a common lung disease. Having COPD makes it hard to breathe.

There are two main forms of COPD: Chronic bronchitis, which involves a long-term cough with mucus; and Emphysema, which involves damage to the lungs over timeMost people with COPD have a combination of both conditions. Smoking is the main cause of COPD. The more a person smokes, the more likely it is that he will develop COPD. However, some people smoke for years and never get COPD. In rare cases, non-smokers who lack a protein called alpha-1 antitrypsin can develop emphysema.

## Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| FAM13A   | rs2869966  | TC       |
| IREB2    | rs8042238  | TC       |
| FAM13A   | rs2869967  | TT       |
| CD151    | rs34391416 | GG       |
| HHIP AS1 | rs13141641 | TC       |
| CHRNA3   | rs12914385 | TC       |
| FAM13A   | rs4416442  | TT       |
| CYS1     | rs12692398 | AA       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

#### More information:



#### **Asthma**

Asthma is a chronic inflammatory disease that affects the causing reversible airflow obstruction, bronchospasms, and other recurring and variable symptoms, including wheezing, coughing, chest tightness, shortness of breath. Symptoms can occur several times a day or week and are often worse at night, first thing in the morning, or with exercise. We could say that the disease is always there when you have asthma, but you only have crises when something affects your lungs. Environmental factors, such as exposure to allergens and pollutants, significantly influence asthma, but genetics also play a crucial role in its development. Specific variants in genes, such as TSBP1-AS1 and LOC105369781, are associated with a greater genetic predisposition to suffer from asthma.

### Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| HLA     | rs7775228  | TT       |
| GAB1    | rs3805236  | GG       |
| LOC1053 | rs1701704  | TG       |
| NOTCH4  | rs404860   | TT       |
| PBX2    | rs204993   | AA       |
| TSBP1   | rs3117098  | AG       |
| TSBP1   | rs3129943  | AG       |
| Unknown | rs9500927  | AG       |
| Unknown | rs9275698  | AA       |
| Unknown | rs7686660  | TG       |
| Unknown | rs3129890  | CC       |
| Unknown | rs1837253  | CC       |
| Unknown | rs10508372 | GG       |

#### **GWAS** analysis

## What do your genetics tell us?



According to this study, you have a predisposition similar to most of the population. Other genetic and clinical factors may influence.

### More information:

https://pubmed.ncbi.nlm.nih.gov/21804548/



## **Systemic sclerosis**

Systemic Sclerosis is a chronic autoimmune disease that causes an alteration of the collagen (protein of the connective tissue) and, as a consequence, the skin sclerosis; that is, it hardens. It can also affect other organs of the body such as the lungs, heart, kidneys, etc. although the part most often affected is the skin. The prognosis is highly variable from person to person. Exposure to certain toxic products (such as tobacco), excessive stress, exposure to cold, and some drugs can worsen the symptoms. It affects one in 50,000 people and is more common in middle-aged women. It is a rare disease of unknown, severely disabling origin. A large-scale study has found that different genetic variants are associated with the pathogenesis of the disease.

## Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| PSORS1C | rs3130573  | GG       |
| HLA     | rs6457617  | CC       |
| LOC1079 | rs13021401 | CC       |
| TNIP1   | rs2233287  | GG       |
| CD247   | rs2056626  | TG       |
| STAT4   | rs7574865  | GG       |
| TNPO3   | rs10488631 | TC       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



#### Osteosarcoma

Osteosarcoma is a very rare type of cancerous bone tumour that usually develops in teenagers. It often occurs when a teen is growing rapidly. Osteosarcoma is the most common bone cancer in children. The average age at diagnosis is 15. Boys and girls are just as likely to develop this tumour, until the late teens, when it occurs more often in boys. Osteosarcoma is also common in people over age 60.

The cause is not known. In some cases, osteosarcoma runs in families. At least one gene has been linked to an increased risk. This gene is also associated with familial retinoblastoma. This is a cancer of the eye that occurs in children.

## Your genetic map

| Gene      | SNP        | Genotype |
|-----------|------------|----------|
| GRM4      | rs1906953  | CC       |
| AJ412031  | rs573666   | CC       |
| Intergeni | rs7591996  | AA       |
| ADAMTS6   | rs17206779 | TT       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you are less likely to suffer from this disease than most of the population.

### More information:



### **Rheumatoid arthritis**

Rheumatoid Arthritis (RA) is a form of arthritis that causes pain, swelling, stiffness and a loss of function in your joints. It can affect any joint, but is common in the wrist and fingers.

More women than men suffer from rheumatoid arthritis. It often starts in middle age, and is most common in older people. You might have the disease for only a short time, or symptoms might come and go. The severe form can last a lifetime.

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:

www.ncbi.nlm.nih.gov/pubmed/24390342

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| ACOXL    | rs6732565  | AG       |
| LINC0110 | rs9653442  | TT       |
| ANKRD55  | rs7731626  | AA       |
| ARID5B   | rs71508903 | CC       |
| ATG5     | rs9372120  | TG       |
| BLK      | rs2736337  | TT       |
| RABEP1   | rs72634030 | CC       |
| C4orf52  | rs11933540 | TC       |
| MACIR    | rs2561477  | GG       |
| CCL21    | rs11574914 | AG       |
| CD2      | rs624988   | CC       |
| CD226    | rs2469434  | TT       |
| CD28     | rs1980422  | TC       |
| CD40     | rs4239702  | TC       |
| CDK6     | rs4272     | AA       |
| TYR      | rs4409785  | CC       |
| FLACC1   | rs6715284  | CC       |
| CLNK     | rs13142500 | TT       |
| CTLA4    | rs3087243  | AA       |
| RPP14    | rs73081554 | CC       |
| EOMES    | rs3806624  | GG       |
| ETS1     | rs73013527 | TC       |
| FADS2    | rs968567   | CC       |
| GRHL2    | rs678347   | AA       |
| HLA      | rs9268839  | AG       |
| STAG1    | rs9826828  | GG       |
| CSF2 IL3 | rs657075   | GG       |
| MECP2    | rs5987194  | GC       |
| IRF8     | rs13330176 | TT       |
| JAZF1    | rs67250450 | TC       |
| LBH      | rs10175798 | GG       |
|          |            |          |



## Multiple myeloma

Multiple myeloma is a cancer that begins in plasma cells, a type of white blood cell. These cells are part of your immune system, which helps protect the body from germs and other harmful substances. Over time myeloma cells collect in the bone marrow and in the solid parts of bones.

No one knows the exact causes of multiple myeloma, but it is more common in older people and African Americans. It can run in families.

## Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| MYNN    | rs10936599 | CC       |
| PSORS1C | rs2285803  | CC       |
| MXI1    | rs11195062 | CC       |
| TNFRSF1 | rs4273077  | AA       |
| CBX7    | rs877529   | AG       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



## Myasthenia gravis

Myasthenia gravis is a disease that causes weakness in the voluntary muscles. These are the muscles that you control. For example, you may suffer weakness in the muscles used for eye movement, facial expressions, and swallowing. You can also have weakness in other muscles. This weakness gets worse with activity, and better with rest.

Myasthenia gravis is an autoimmune disease. Your body's immune system produces antibodies that block or alter some of the nerve signals to your muscles. This makes your muscles weaker.

# Your genetic map

| Gene     | SNP       | Genotype |
|----------|-----------|----------|
| PTPN22   | rs2476601 | GG       |
| TNIP1    | rs4958881 | TC       |
| LINC0112 | rs6719884 | AC       |
| NR       | rs3130544 | CC       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



# Type 1 diabetes

Diabetes means your blood glucose, or blood sugar, levels are too high. With type-1 diabetes, your pancreas does not make insulin. Insulin is a hormone that helps your cells get energy from glucose. Without insulin, too much glucose remains in your blood. Over time, high blood glucose can lead to serious problems with your heart, eyes, kidneys, nerves, and gums and teeth.

Type-1 diabetes happens most often in children and young adults, but can appear at any age.

## Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| BACH2   | rs11755527 | GG       |
| LINC026 | rs947474   | AA       |
| CTSH    | rs3825932  | TC       |
| C1QTNF6 | rs229541   | AA       |
| PHTF1   | rs6679677  | CC       |
| CTLA4   | rs3087243  | AA       |
| IL2RA   | rs12251307 | CC       |
| NAA25   | rs17696736 | AA       |
| ERBB3   | rs2292239  | GG       |
| CLEC16A | rs12708716 | AA       |
| PTPN2   | rs2542151  | TT       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you are more likely to suffer from this disease than most of the population.

### More information:



# Type 1 diabetes nephropathy

Type-1 Diabetes Mellitus (DM1) is an autoimmune and metabolic disease in which the pancreas does not produce insulin, resulting in elevated blood glucose levels. Type-1 diabetes occurs most frequently in children and young adults, and accounts for 13% of all cases of diabetes in countries like Spain, where the number of cases for children under 15 is 11.5-27.6 cases/100,000 inhabitants. Susceptibility to Type-1 diabetes mellitus appears to be associated with multiple genetic factors, although interaction with certain environmental factors (infections, diet ...) is required for the development of the disease.

## Your genetic map

| Gene      | SNP        | Genotype |
|-----------|------------|----------|
| LOC1079   | rs12437854 | TT       |
| AFF3      | rs7583877  | TT       |
| Intergeni | rs878889   | GG       |
| LINC0115  | rs4871297  | AA       |
| RNF10     | rs614226   | CC       |
| EFCAB8    | rs13045180 | TC       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



# Type 2 diabetes

Diabetes means your blood glucose, or blood sugar, levels are too high. With type-2 diabetes, the more common type, your body does not make or use insulin well. Insulin is a hormone that helps your cells get energy from glucose. Without insulin, too much glucose remains in your blood. Over time, high blood glucose can lead to serious problems with your heart, eyes, kidneys, nerves, and gums and teeth. You have a higher risk of type 2 diabetes if you are older, obese, have a family history of diabetes, or do not exercise. Having pre-diabetes also increases your risk. Prediabetes means that your blood sugar is higher than normal, but not high enough to be called diabetes.

#### **GWAS** analysis

## What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:

www.ncbi.nlm.nih.gov/pubmed/24509480

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| RREB1    | rs9502570  | TT       |
| FAF1     | rs17106184 | GG       |
| POU5F1   | rs3132524  | СС       |
| LOC1079  | rs6808574  | TC       |
| ARL15    | rs702634   | AA       |
| MPHOSP   | rs1727313  | GG       |
| PLEKHA1  | rs10510110 | TC       |
| LINC008  | rs1561927  | TC       |
| LOC1079  | rs9472138  | CC       |
| ETV1     | rs7795991  | AG       |
| C6orf173 | rs4273712  | AA       |
| TCF7L2   | rs7903146  | TT       |
| CDKAL1   | rs7756992  | AG       |
| GRB14    | rs3923113  | AA       |
| TLE4     | rs17791513 | AA       |
| CDC123   | rs11257655 | TC       |
| ARAP1    | rs1552224  | AC       |
| KCNQ1    | rs163184   | GG       |
| JAZF1    | rs849135   | AG       |
| KCNJ11   | rs5215     | TT       |
| ST6GAL1  | rs16861329 | TC       |
| MTNR1B   | rs10830963 | CC       |
| HNF4A    | rs4812829  | AG       |
| RPSAP52  | rs2261181  | CC       |
| LOC1053  | rs1359790  | AG       |
| AP3S2    | rs2028299  | AC       |
| FTO      | rs9936385  | TT       |
| GLIS3    | rs7041847  | GG       |
| IGF2BP2  | rs4402960  | TT       |
| PPARG    | rs1801282  | CC       |
| HNF1B    | rs4430796  | AG       |
|          |            |          |



# Hypothyroidism

Your thyroid is a butterfly-shaped gland in your neck, just above your collarbone. It is one of your endocrine glands, which produce hormones. Thyroid hormones control the rate of many activities in your body. These include how fast you burn calories and how fast your heart beats. All of these activities comprise your body's metabolism. If your thyroid gland is not active enough, it does not produce enough thyroid hormone to meet your body's needs. This condition is known as hypothyroidism. Hypothyroidism is more common in women, people with other thyroid problems, and those over age 60. Hashimoto's Disease, an autoimmune disorder, is the most common cause. Other causes include thyroid nodules, thyroiditis, congenital hypothyroidism, surgical removal of part or all of the thyroid, radiation treatment of the thyroid, and some medicines.

## Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| INSR     | rs4804416  | TG       |
| TRNAH    | rs10961534 | AA       |
| TNFRSF1  | rs10162002 | GG       |
| HLA C    | rs2517532  | AG       |
| MTF1     | rs3748682  | TT       |
| PDE8B    | rs4704397  | AG       |
| ZBTB10   | rs1051920  | TC       |
| ZNF804B  | rs10248351 | TT       |
| KRT18P13 | rs925489   | TT       |
| VAV3     | rs4915077  | TT       |
| SH2B3    | rs3184504  | CC       |
| PTPN22   | rs6679677  | CC       |
| HLA      | rs3129720  | CC       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



# **GWAS Complex Diseases: Urogenital System**

### **Endometriosis**

The uterus, or womb, is the place where a baby grows when a woman is pregnant. Endometriosis is a disease in which the kind of tissue that normally grows inside the uterus grows outside it. It can grow on the ovaries, fallopian tubes, bowels, or bladder. Rarely, it grows in other parts of the body.

## Your genetic map

| Gene      | SNP        | Genotype |
|-----------|------------|----------|
| GREB1     | rs13394619 | AA       |
| LNC       | rs7739264  | TC       |
| Intergeni | rs12700667 | GG       |
| CDKN2B    | rs1537377  | CC       |
| VEZT      | rs10859871 | AC       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



# **GWAS Complex Diseases: Urogenital System**

#### **Bladder cancer**

Bladder cancer is the fourth most frequently diagnosed in men. It is much more frequent in men than women, the ratio being 7-to-1. The incidence (new cases diagnosed in one year) in our country is the highest in the world: 11% of tumours in men, and 2.4% in women. 70-75% of the cases are attributed to tobacco consumption. Another risk factor is urinary tract infection. People with affected relatives are at increased risk of developing this type of tumour, suggesting that there is an underlying genetic factor. In fact, large-scale association studies have found genes predisposing one to the disease.

## Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| MYNN    | rs10936599 | CC       |
| LSP1    | rs907611   | AG       |
| LINC028 | rs6104690  | GG       |
| MCF2L   | rs4907479  | AA       |
| UGT1A10 | rs11892031 | AC       |
| TP63    | rs710521   | TT       |
| TACC3   | rs798766   | CC       |
| CLPTM1L | rs401681   | CC       |
| NAT2    | rs1495741  | AG       |
| PSCA    | rs2204008  | TT       |
| CASC11  | rs9642880  | GG       |
| SLC14A1 | rs10775480 | TC       |
| CCNE1   | rs8102137  | TT       |
| CBX6    | rs1014971  | CC       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you are less likely to suffer from this disease than most of the population.

### More information:



### Basal cell carcinoma

Non-melanoma type tumours occur on the outermost layer of the epidermis, and account for some 95% of the cancers that appear on the skin. About 20% are squamous carcinomas, which come from the malignization of the skin's squamous cells. It is among the most common cancers among people of European descent. The main cause of occurrence is DNA damage caused by ultraviolet exposure, although large-scale genetic studies have described genetic variants predisposing one to the disease.

## Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| MYCN    | rs57244888 | TT       |
| FLACC1  | rs13014235 | GG       |
| LOC1079 | rs28727938 | CC       |
| GATA3   | rs73635312 | GG       |
| PADI6   | rs7538876  | GG       |
| RHOU    | rs801114   | TT       |
| CLPTM1L | rs401681   | CC       |
| KRT5    | rs11170164 | CC       |
| CDKN2B  | rs2151280  | AG       |
| LINC    | rs157935   | TG       |
| TP53    | rs78378222 | TT       |
| TGM3    | rs214782   | AG       |
| RGS22   | rs7006527  | AA       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:



#### **Psoriasis**

Psoriasis is a skin disease that causes itchy or sore patches of thick, red skin with silvery scales. Patients usually get the patches on their elbows, knees, scalp, back, face, palms and feet, but they can show up on other parts of the body. Some people who have psoriasis also get a form of arthritis called psoriatic arthritis. A problem with your immune system causes psoriasis. In a process called cell turnover, skin cells that grow deep in your skin rise to the surface. This normally takes a month. In cases of psoriasis this happens in just days, because one's cells rise too fast. The disease is not hereditary, but there is a genetic predisposition to it, and a third of those affected have direct relatives with psoriasis.

#### **GWAS** analysis

## What do your genetics tell us?



According to this study, you are more likely to suffer from this disease than most of the population.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/25903422

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| TP63     | rs28512356 | AC       |
| COG6     | rs34394770 | TC       |
| LOC1448  | rs9533962  | TC       |
| RUNX1    | rs8128234  | CC       |
| CLIC6    | rs9305556  | GG       |
| LOC1079  | rs11922372 | TC       |
| LOC2856  | rs7709212  | TT       |
| TNIP     | rs17728338 | GG       |
| IL12B    | rs4921493  | TC       |
| IFIH1    | rs3747517  | TT       |
| LCE      | rs4845459  | AA       |
| TNFAIP3  | rs643177   | TC       |
| REL DT   | rs842625   | AG       |
| IL12B    | rs2853694  | GG       |
| IFIH1    | rs1990760  | TT       |
| PSMA6    | rs8016947  | TG       |
| NOS2     | rs4795067  | AG       |
| IL13     | rs20541    | GG       |
| RIGI     | rs11795343 | TC       |
| IL28RA   | rs10794648 | CC       |
| QTRT1    | rs892085   | AG       |
| IL23R    | rs12564022 | TT       |
| STAT2    | rs2066807  | GC       |
| REV3L    | rs240993   | CC       |
| ETS1     | rs6590334  | TC       |
| TRAF3IP2 | rs7769061  | AA       |



## **Vitiligo**

Vitiligo causes white patches on your skin. It can also affect your eyes, mouth, and nose. It occurs when the cells that give your skin its color are destroyed. No one knows what destroys them. It is more common in people with autoimmune diseases, and it might run in families. It usually starts before age 40.

The white patches are more common where your skin is exposed to the sun. In some cases, the patches spread. Vitiligo can cause your hair to grey prematurely. If you have dark skin, you may lose colour inside your mouth.

## Your genetic map

| Gene   | SNP        | Genotype |
|--------|------------|----------|
| IFIH1  | rs2111485  | GG       |
| CD80   | rs59374417 | AC       |
| CLNK   | rs16872571 | TC       |
| BACH2  | rs3757247  | CC       |
| CASP7  | rs3814231  | CC       |
| SLC1A2 | rs10768122 | AG       |
| TYR    | rs4409785  | CC       |
| IKZF4  | rs2456973  | AC       |
| ATXN2  | rs4766578  | TA       |
| HERC2  | rs1129038  | TC       |
| FANCA  | rs9926296  | AG       |
| TICAM1 | rs6510827  | TT       |
| TOB2   | rs4822024  | AG       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you are more likely to suffer from this disease than most of the population.

### More information:



# **GWAS Complex Diseases: Others**

#### Celiac disease

Celiac disease is an immune disease in which people cannot eat gluten because it damages their small intestine. If you have celiac disease and eat foods with gluten, your immune system responds by damaging the small intestine. Gluten is a protein found in wheat, rye, and barley. It may also be found in other products, like vitamins and supplements, hair and skin products, toothpastes, and lip balm. Celiac disease affects each person differently. Symptoms may occur in the digestive system, or in other parts of the body. One person might have diarrhea and abdominal pain, while another may be irritable or depressed. Irritability is one of the most common symptoms in children. Some people have no symptoms.

#### **GWAS** analysis

## What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

### More information:

www.ncbi.nlm.nih.gov/pubmed/20190752

| Gene      | SNP        | Genotype |
|-----------|------------|----------|
| LOC1053   | rs2816316  | AA       |
| PUS10     | rs13003464 | AG       |
| IL18R1    | rs917997   | CC       |
| LINC0193  | rs13010713 | GG       |
| ICOS      | rs4675374  | TC       |
| CCRL2     | rs13098911 | CC       |
| IL12A AS1 | rs17810546 | AA       |
| LPP       | rs1464510  | AC       |
| BLTP1     | rs13151961 | AA       |
| HLA       | rs2187668  | TT       |
| TNFAIP3   | rs2327832  | AG       |
| ATXN2     | rs653178   | CC       |
| PTPN2     | rs1893217  | AA       |
| MMEL1     | rs3748816  | AG       |
| RUNX3     | rs10903122 | AG       |
| MROH3P    | rs296547   | TC       |
| PLEK      | rs17035378 | TC       |
| ARHGAP3   | rs11712165 | TG       |
| BACH2     | rs10806425 | AC       |
| THEMIS    | rs802734   | AA       |
| Intergeni | rs9792269  | AA       |
| ZMIZ1     | rs1250552  | AG       |
| ETS1      | rs11221332 | TC       |
| LOC1053   | rs12928822 | CC       |
| ICOSLG    | rs4819388  | TT       |
| CD247     | rs864537   | AA       |
| TNFSF18   | rs859637   | CC       |
| FRMD4B    | rs6806528  | CC       |
| MYNN      | rs10936599 | CC       |
| ELMO1     | rs6974491  | GG       |
| DLEU1     | rs2762051  | CC       |
|           |            |          |



# **GWAS Complex Diseases: Others**

## Age-related macular degeneration

Macular degeneration, or age-related macular degeneration (AMD), is a leading cause of vision loss in Americans 60 and older. It is a disease that destroys your sharp, central vision. You need central vision to see objects clearly and to perform tasks such as reading and driving. AMD affects the macula, the part of the eye that allows you to perceive details. It does not hurt, but it causes cells in the macula to die. There are two types: wet and dry. Wet AMD happens when abnormal blood vessels grow under the macula. These new blood vessels often leak blood and fluid. Wet AMD damages the macula quickly. Blurred vision is a common early symptom. Dry AMD happens when the light-sensitive cells in the macula slowly break down. You gradually lose your central vision. A common early symptom is that straight lines appear crooked.

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/23455636

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| ARMS2   | rs10490924 | GG       |
| SKIC2   | rs429608   | AG       |
| C3      | rs2230199  | CG       |
| APOC1   | rs4420638  | AA       |
| CETP    | rs1864163  | GG       |
| LOC1079 | rs943080   | CC       |
| TNFRSF1 | rs13278062 | TG       |
| LOC1019 | rs920915   | CC       |
| MCUB    | rs4698775  | TT       |
| COL10A1 | rs3812111  | AT       |
| COL8A1  | rs13081855 | GG       |
| LOC1079 | rs3130783  | AA       |
| SLC16A8 | rs8135665  | TC       |
| TGFBR1  | rs334353   | TT       |
| RAD51B  | rs8017304  | AG       |
| ADAMTS9 | rs6795735  | TT       |
| B3GLCT  | rs9542236  | CC       |



## APC: colorrectal and pancreatic cancer

APC gene mutations may be related to diseases such colorrectal and pancreatic cancer. Some publications associate it, in some cases, with gastric cancer.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| APC  | rs137854571 | CC       |
| APC  | rs387906230 | TT       |
| APC  | rs137854568 | CC       |
| APC  | rs137854569 | CC       |
| APC  | rs137854570 | CC       |
| APC  | rs121913327 | CC       |
| APC  | rs137854572 | CC       |
| APC  | rs137854573 | CC       |
| APC  | rs137854574 | CC       |
| APC  | rs137854577 | CC       |
| APC  | rs137854580 | CC       |
| APC  | rs137854582 | TT       |
| APC  | rs397515734 | CC       |
| APC  | rs398123116 | GG       |
| APC  | rs398123117 | CC       |
| APC  | rs398123121 | CC       |
| APC  | rs587779780 | CC       |
| APC  | rs587779783 | CC       |
| APC  | rs587779786 | AA       |
| APC  | rs62619935  | CC       |
| APC  | rs587781392 | CC       |
| APC  | rs587781809 | TT       |
| APC  | rs587782518 | CC       |
| APC  | rs587783029 | CC       |
| APC  | rs587783035 | AA       |
| APC  | rs376213437 | TT       |
| APC  | rs730881240 | CC       |
| APC  | rs145945630 | CC       |
| APC  | rs786201291 | AA       |
| APC  | rs786201856 | CC       |
| APC  | rs775126020 | CC       |
|      |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=733



#### **ATM:** breast cancer

Mutations of the ATM gene may be related to diseases like breast cancer. Some publications have associated this gene, to a lesser extent, with other cancers, such as ovarian.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ATM  | rs587781545 | CC       |
| ATM  | rs747855862 | GG       |
| ATM  | rs55861249  | CC       |
| ATM  | rs587776551 | GG       |
| ATM  | rs1137887   | GG       |
| ATM  | rs796051858 | GG       |
| ATM  | rs587779813 | GG       |
| ATM  | rs587779815 | CC       |
| ATM  | rs587779818 | GG       |
| ATM  | rs587779826 | TT       |
| ATM  | rs587779833 | CC       |
| ATM  | rs587779836 | GG       |
| ATM  | rs587778080 | CC       |
| ATM  | rs587781511 | AA       |
| ATM  | rs587781558 | GG       |
| ATM  | rs587781698 | CC       |
| ATM  | rs200196781 | GG       |
| ATM  | rs587781911 | GG       |
| ATM  | rs587781927 | TT       |
| ATM  | rs587781950 | AA       |
| ATM  | rs587782103 | GG       |
| ATM  | rs587782124 | TT       |
| ATM  | rs587782192 | TT       |
| ATM  | rs587782276 | AA       |
| ATM  | rs587782280 | GG       |
| ATM  | rs373226793 | TT       |
| ATM  | rs376170600 | CC       |
| ATM  | rs730881359 | AA       |
| ATM  | rs730881333 | CC       |
| ATM  | rs730881336 | CC       |
| ATM  | rs730881347 | GG       |
|      |             |          |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

https://www.ncbi.nlm.nih.gov/gene? Db=gene&Cmd=DetailsSearch&Term=472



#### **BARD1**: breast cancer

BARD1 gene mutations may be related to diseases like breast cancer. Some publications have associated this gene, to a minor extent, with ovarian cancer.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| BARD1 | rs587781430 | GG       |
| BARD1 | rs587781707 | GG       |
| BARD1 | rs587781948 | GG       |
| BARD1 | rs587782681 | GG       |
| BARD1 | rs730881422 | GG       |
| BARD1 | rs730881415 | CC       |
| BARD1 | rs730881411 | GG       |
| BARD1 | rs786202559 | GG       |
| BARD1 | rs786202500 | GG       |
| BARD1 | rs758972589 | GG       |
| BARD1 | rs786201912 | GG       |
| BARD1 | rs864622239 | TT       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

https://www.orpha.net/consor/cgi-bin/Disease\_Search.php? lng=EN&data\_id=3384&Disease\_Disease\_Search\_diseaseGroup=BARD1&Disease\_Disease\_Search\_diseaseType=Gen&Disease(s)/group%20of%20diseases=Hereditary-breast-and-ovarian-cancer-syndrome&title=Hereditary%20breast%20and%20ovarian%20cancer%20syndrome&search=Disease\_Search\_Simple



### **BLM**: colorrectal cancer

BLM gene mutations may be related to diseases such bloom syndrome and colorrectal cancer.

## Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| BLM  | rs367543036  | GG       |
| BLM  | rs367543029  | GG       |
| BLM  | rs367543017  | CC       |
| BLM  | rs200389141  | CC       |
| BLM  | rs587779884  | CC       |
| BLM  | rs587783037  | CC       |
| BLM  | rs730881428  | TT       |
| BLM  | rs1057516964 | GG       |
| BLM  | rs1356090839 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

https://www.ncbi.nlm.nih.gov/gene/641



## BMPR1A: colorrectal, gastric and pancreatic cancer

BMPR1A gene mutations may be related to diseases such juvenile polyposis syndrome, colorrectal, gastric and pancreatic cancer.

## Your genetic map

| Gene   | SNP          | Genotype |
|--------|--------------|----------|
| BMPR1A | rs199476085  | GG       |
| BMPR1A | rs199476086  | CC       |
| BMPR1A | rs199476087  | TT       |
| BMPR1A | rs587782388  | GG       |
| BMPR1A | rs587782400  | CC       |
| BMPR1A | rs587782682  | CC       |
| BMPR1A | rs786203157  | AA       |
| BMPR1A | rs764466442  | CC       |
| BMPR1A | rs786201040  | CC       |
| BMPR1A | rs878854672  | GG       |
| BMPR1A | rs878854664  | GG       |
| BMPR1A | rs759363072  | CC       |
| BMPR1A | rs1131691178 | CC       |
| BMPR1A | rs1131691185 | CC       |
| BMPR1A | rs1230919713 | CC       |
| BMPR1A | rs1404557708 | CC       |
| BMPR1A | rs1392086533 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=2929



#### **BRCA1**: breast and ovarian cancer

Mutations of the BRCA1 gene may be related to diseases such as breast and ovarian cancer. There are some studies that associated this gene, to a lesser extent, with other cancers, such as colon and pancreatic.

# Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| BRCA1 | rs80357064  | AA       |
| BRCA1 | rs28897672  | AA       |
| BRCA1 | rs62625308  | GG       |
| BRCA1 | rs28897686  | CC       |
| BRCA1 | rs41293455  | GG       |
| BRCA1 | rs62625306  | CC       |
| BRCA1 | rs80357382  | TT       |
| BRCA1 | rs41293463  | AA       |
| BRCA1 | rs80357498  | CC       |
| BRCA1 | rs80357253  | TT       |
| BRCA1 | rs80358038  | CC       |
| BRCA1 | rs80358158  | CC       |
| BRCA1 | rs80357010  | GG       |
| BRCA1 | rs80356898  | GG       |
| BRCA1 | rs80357005  | CC       |
| BRCA1 | rs80357355  | TT       |
| BRCA1 | rs80358061  | AA       |
| BRCA1 | rs80358163  | TT       |
| BRCA1 | rs80357233  | GG       |
| BRCA1 | rs80357147  | TT       |
| BRCA1 | rs80356875  | CC       |
| BRCA1 | rs80357131  | GG       |
| BRCA1 | rs80356925  | GG       |
| BRCA1 | rs80357251  | CC       |
| BRCA1 | rs80357170  | TT       |
| BRCA1 | rs80357035  | CC       |
| BRCA1 | rs80357115  | AA       |
| BRCA1 | rs397507206 | GG       |
| BRCA1 | rs80358051  | GG       |
| BRCA1 | rs80357161  | CC       |
| BRCA1 | rs397507215 | GG       |
|       |             |          |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### **BRCA2**: breast and ovarian cancer

Mutations of the BRCA2 gene may be related to diseases such as breast and ovarian cancer. Some studies have related this gene, to a lesser extent, with other cancers, such as pancreatic.

# Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| BRCA2 | rs80359062  | CC       |
| BRCA2 | rs80359070  | TT       |
| BRCA2 | rs80358695  | GG       |
| BRCA2 | rs80358979  | TT       |
| BRCA2 | rs80358785  | CC       |
| BRCA2 | rs80359180  | CC       |
| BRCA2 | rs81002897  | GG       |
| BRCA2 | rs81002899  | TT       |
| BRCA2 | rs397507266 | CC       |
| BRCA2 | rs397507275 | AA       |
| BRCA2 | rs80358464  | TT       |
| BRCA2 | rs80358474  | CC       |
| BRCA2 | rs397507278 | CC       |
| BRCA2 | rs397507279 | TT       |
| BRCA2 | rs397507282 | CC       |
| BRCA2 | rs80358504  | TT       |
| BRCA2 | rs397507285 | TT       |
| BRCA2 | rs80358529  | CC       |
| BRCA2 | rs80358532  | CC       |
| BRCA2 | rs397507296 | CC       |
| BRCA2 | rs80358544  | GG       |
| BRCA2 | rs80358550  | AA       |
| BRCA2 | rs80358557  | CC       |
| BRCA2 | rs41293477  | TT       |
| BRCA2 | rs397507303 | GG       |
| BRCA2 | rs397507305 | TT       |
| BRCA2 | rs80358638  | GG       |
| BRCA2 | rs397507320 | TT       |
| BRCA2 | rs80358650  | GG       |
| BRCA2 | rs397507325 | TT       |
| BRCA2 | rs80358663  | CC       |
|       |             |          |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### **BRIP1**: breast cancer

Mutations in the BRIP1 gene may be related to diseases like breast cancer. There are some studies that associated this gene, on a smaller scale, with ovarian cancer.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| BRIP1 | rs587780226 | GG       |
| BRIP1 | rs587780228 | CC       |
| BRIP1 | rs587780833 | CC       |
| BRIP1 | rs587780875 | AA       |
| BRIP1 | rs587781292 | CC       |
| BRIP1 | rs587781321 | GG       |
| BRIP1 | rs587781655 | CC       |
| BRIP1 | rs368796923 | GG       |
| BRIP1 | rs587781786 | GG       |
| BRIP1 | rs587782047 | CC       |
| BRIP1 | rs574552037 | GG       |
| BRIP1 | rs587782410 | AA       |
| BRIP1 | rs587782539 | CC       |
| BRIP1 | rs587782574 | GG       |
| BRIP1 | rs730881635 | TT       |
| BRIP1 | rs730881633 | GG       |
| BRIP1 | rs786202927 | TT       |
| BRIP1 | rs786203451 | CC       |
| BRIP1 | rs747604569 | GG       |
| BRIP1 | rs775171520 | CC       |
| BRIP1 | rs864622277 | CC       |
| BRIP1 | rs575595017 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### CDH1: breast and gastric cancer

Mutations of the CDH1 gene may be associated with diseases such as breast and gastric cancer. There are some studies linking this gene, to a lesser extent, with ovarian and colon cancer.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CDH1 | rs121964877 | CC       |
| CDH1 | rs587780113 | GG       |
| CDH1 | rs149127230 | GG       |
| CDH1 | rs587780537 | GG       |
| CDH1 | rs587780784 | CC       |
| CDH1 | rs587780787 | GG       |
| CDH1 | rs587782750 | CC       |
| CDH1 | rs587782798 | CC       |
| CDH1 | rs587783047 | CC       |
| CDH1 | rs587783050 | GG       |
| CDH1 | rs730881663 | CC       |
| CDH1 | rs786202817 | TT       |
| CDH1 | rs786202290 | GG       |
| CDH1 | rs786202785 | GG       |
| CDH1 | rs876660771 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### CDK4: Familial melanoma

Mutations of the CDK4 gene may be related to diseases such as familial melanoma.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| CDK4 | rs11547328 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **CDKN2A:** pancreatic cancer

CDKN2A gene mutations may be related to diseases such as pancreatic cancer.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CDKN2A | rs104894095 | CC       |
| CDKN2A | rs104894097 | CC       |
| CDKN2A | rs104894098 | AA       |
| CDKN2A | rs104894099 | AA       |
| CDKN2A | rs587778189 | TT       |
| CDKN2A | rs1800586   | CC       |
| CDKN2A | rs45476696  | CC       |
| CDKN2A | rs749714198 | GG       |
| CDKN2A | rs199907548 | AA       |
| CDKN2A | rs730881677 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### CHEK2: breast and colorrectal cancer

CHEK2 gene mutations may be related to diseases such as breast and colorrectal cancer.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| СНЕК2 | rs137853007 | GG       |
| СНЕК2 | rs121908702 | CC       |
| СНЕК2 | rs121908698 | CC       |
| CHEK2 | rs200432447 | GG       |
| CHEK2 | rs28909982  | TT       |
| CHEK2 | rs536907995 | GG       |
| CHEK2 | rs587781269 | GG       |
| CHEK2 | rs587781592 | GG       |
| CHEK2 | rs587781699 | CC       |
| CHEK2 | rs587781705 | AA       |
| CHEK2 | rs587782070 | CC       |
| CHEK2 | rs587782401 | AA       |
| CHEK2 | rs587782575 | TT       |
| CHEK2 | rs587782830 | CC       |
| CHEK2 | rs730881702 | CC       |
| CHEK2 | rs730881687 | CC       |
| CHEK2 | rs730881701 | GG       |
| CHEK2 | rs786201906 | CC       |
| CHEK2 | rs760502479 | GG       |
| CHEK2 | rs786203650 | CC       |
| СНЕК2 | rs786203229 | CC       |
| СНЕК2 | rs786203889 | CC       |
| CHEK2 | rs761494650 | GG       |
| СНЕК2 | rs864622149 | CC       |
| СНЕК2 | rs545982789 | AA       |
| CHEK2 | rs864622613 | CC       |
| СНЕК2 | rs371418985 | CC       |
| CHEK2 | rs768384031 | GG       |
| CHEK2 | rs756250205 | GG       |
| CHEK2 | rs778989252 | GG       |
| CHEK2 | rs768172525 | CC       |
|       |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### **DICER1**: ovarian cancer

DICER1 gene mutations may be related to diseases such as ovarian cancer or DICER1 syndrome related to various types of tumors.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| DICER1 | rs137852976 | AA       |
| DICER1 | rs137852977 | CC       |
| DICER1 | rs137852978 | GG       |
| DICER1 | rs137852979 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# EPCAM: Lynch syndrome, breast, ovarian, uterine, colorrectal, gastric and pancreatic cancer

EPCAM gene mutations may be related to diseases such as Lynch syndrome, breast, ovarian, uterine, colorrectal, gastric and pancreatic cancer.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| EPCAM | rs606231203 | GG       |
| EPCAM | rs376155665 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# FH: Hereditary leiomyomatosis and renal cell cancer

Mutations of the FH gene may be related to hereditary leiomyomatosis and renal cell cancer (HLRCC).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FH   | rs121913120 | GG       |
| FH   | rs121913122 | GG       |
| FH   | rs121913123 | CC       |
| FH   | rs75086406  | CC       |
| FH   | rs398123160 | GG       |
| FH   | rs121913121 | TT       |
| FH   | rs398123168 | GG       |
| FH   | rs727503927 | AA       |
| FH   | rs863224010 | TT       |
| FH   | rs863224007 | CC       |
| FH   | rs863223966 | TT       |
| FH   | rs863223968 | GG       |
| FH   | rs863223980 | GG       |
| FH   | rs886039368 | CC       |
| FH   | rs398123159 | AA       |
| FH   | rs398123166 | GG       |
| FH   | rs587781682 | GG       |
| FH   | rs587782618 | CC       |
| FH   | rs372505976 | TT       |
| FH   | rs863223978 | CC       |
| FH   | rs863224008 | TT       |
| FH   | rs863224004 | CC       |
| FH   | rs863223973 | AA       |
| FH   | rs863224002 | GG       |
| FH   | rs863224000 | AA       |
| FH   | rs863223967 | TT       |
| FH   | rs863223965 | AA       |
| FH   | rs863224015 | TT       |
| FH   | rs863223983 | TT       |
| FH   | rs863223982 | CC       |
|      |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **FLCN: Kidney cancer**

Mutations of the FLCN gene may be related to diseases such as kidney cancer. In addition, some studies associated this gene, to a lesser extent, with other tumors of the skin and lungs.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FLCN | rs137852929 | GG       |
| FLCN | rs398124524 | GG       |
| FLCN | rs398124528 | TT       |
| FLCN | rs398124530 | CC       |
| FLCN | rs398124533 | TT       |
| FLCN | rs398124536 | GG       |
| FLCN | rs587782069 | GG       |
| FLCN | rs786202081 | CC       |
| FLCN | rs758175953 | CC       |
| FLCN | rs876658409 | CC       |
| FLCN | rs878855218 | CC       |
| FLCN | rs879255683 | GG       |
| FLCN | rs755959303 | CC       |
| FLCN | rs879255678 | GG       |
| FLCN | rs879255668 | AA       |
| FLCN | rs879255667 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### MEN1: multiple endocrine neoplasia type 1

MEN1 gene mutations may be related to diseases such as multiple endocrine neoplasia type 1.

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| MEN1 | rs104894256  | AA       |
| MEN1 | rs28931612   | CC       |
| MEN1 | rs104894263  | GG       |
| MEN1 | rs1060499976 | CC       |
| MEN1 | rs386134250  | TT       |
| MEN1 | rs386134254  | GG       |
| MEN1 | rs386134256  | AA       |
| MEN1 | rs386134260  | GG       |
| MEN1 | rs794728622  | CC       |
| MEN1 | rs398124437  | CC       |
| MEN1 | rs786204242  | CC       |
| MEN1 | rs794728627  | GG       |
| MEN1 | rs794728625  | CC       |
| MEN1 | rs794728652  | CC       |
| MEN1 | rs794728624  | CC       |
| MEN1 | rs104894257  | CC       |
| MEN1 | rs794728650  | CC       |
| MEN1 | rs376872829  | CC       |
| MEN1 | rs794728647  | GG       |
| MEN1 | rs794728616  | GG       |
| MEN1 | rs794728614  | GG       |
| MEN1 | rs878855192  | TT       |
| MEN1 | rs886039416  | GG       |
| MEN1 | rs886039415  | AA       |
| MEN1 | rs886039414  | CC       |
| MEN1 | rs886039553  | GG       |
| MEN1 | rs886039413  | GG       |
| MEN1 | rs886042035  | TT       |
| MEN1 | rs1057518572 | CC       |
| MEN1 | rs794728648  | CC       |
| MEN1 | rs1057520733 | GG       |
|      |              |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **MET**: Lung and gastric cancer

Mutations of the MET gene may be related to lung and gastric cancer. Some studies associated this gene, to a lesser extent, with other cancers, such as cell ovarian and colorectal.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MET  | rs121913670 | GG       |
| MET  | rs121913243 | AA       |
| MET  | rs794728016 | TT       |
| MET  | rs786202724 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# MITF: MITF-related melanoma and renal cell carcinoma predisposition syndrome

Mutations of the MITF gene may be related to diseases such as melanoma and renal cell carcinoma predisposition syndrome. In addition, some studies associated this gene, to a lesser extent, with other cancers, such as breast cancer.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MITF | rs104893746 | CC       |
| MITF | rs149617956 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **MLH1: Lynch syndrome**

MLH1 gene mutations may be related to diseases such as Lynch Syndrome.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MLH1 | rs63750198  | CC       |
| MLH1 | rs63751109  | CC       |
| MLH1 | rs63750710  | AA       |
| MLH1 | rs63751615  | CC       |
| MLH1 | rs63750206  | GG       |
| MLH1 | rs63750899  | CC       |
| MLH1 | rs63750691  | CC       |
| MLH1 | rs63750217  | GG       |
| MLH1 | rs63749939  | GG       |
| MLH1 | rs63751194  | CC       |
| MLH1 | rs63750540  | AA       |
| MLH1 | rs63751221  | CC       |
| MLH1 | rs63751715  | GG       |
| MLH1 | rs587778894 | CC       |
| MLH1 | rs267607823 | AA       |
| MLH1 | rs63750443  | GG       |
| MLH1 | rs63749795  | CC       |
| MLH1 | rs267607836 | AA       |
| MLH1 | rs267607853 | GG       |
| MLH1 | rs63751657  | GG       |
| MLH1 | rs267607867 | GG       |
| MLH1 | rs63751632  | GG       |
| MLH1 | rs267607871 | AA       |
| MLH1 | rs63750726  | CC       |
| MLH1 | rs63751275  | CC       |
| MLH1 | rs267607720 | CC       |
| MLH1 | rs267607894 | TT       |
| MLH1 | rs63750437  | GG       |
| MLH1 | rs63750005  | CC       |
| MLH1 | rs267607735 | GG       |
| MLH1 | rs267607750 | GG       |
|      |             |          |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### MSH2: Lynch syndrome and colorrectal cancer

MSH2 gene mutations may be related to diseases such as Lynch Syndrome and colorrectal cancer.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MSH2 | rs267607939 | CC       |
| MSH2 | rs267607940 | GG       |
| MSH2 | rs63750224  | CC       |
| MSH2 | rs267607972 | GG       |
| MSH2 | rs267607970 | GG       |
| MSH2 | rs63751411  | GG       |
| MSH2 | rs63750636  | CC       |
| MSH2 | rs63750843  | CC       |
| MSH2 | rs587779190 | GG       |
| MSH2 | rs28929483  | CC       |
| MSH2 | rs63751108  | CC       |
| MSH2 | rs28929484  | CC       |
| MSH2 | rs63750047  | CC       |
| MSH2 | rs63751207  | GG       |
| MSH2 | rs63750875  | GG       |
| MSH2 | rs63749932  | CC       |
| MSH2 | rs193922376 | AA       |
| MSH2 | rs63750396  | GG       |
| MSH2 | rs587779067 | CC       |
| MSH2 | rs267607943 | AA       |
| MSH2 | rs63750558  | CC       |
| MSH2 | rs63749849  | CC       |
| MSH2 | rs587779075 | CC       |
| MSH2 | rs63751412  | CC       |
| MSH2 | rs267607950 | GG       |
| MSH2 | rs63751693  | CC       |
| MSH2 | rs63751646  | AA       |
| MSH2 | rs267607957 | GG       |
| MSH2 | rs587779087 | TT       |
| MSH2 | rs63750615  | GG       |
| MSH2 | rs267607969 | GG       |
|      |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# MSH6: Lynch syndrome and colorrectal cancer

MSH6 gene mutations may be related to diseases such as Lynch Syndrome and colorrectal cancer.

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| MSH6 | rs1800937    | CC       |
| MSH6 | rs63751405   | TT       |
| MSH6 | rs63750741   | TT       |
| MSH6 | rs63750909   | CC       |
| MSH6 | rs587779227  | GG       |
| MSH6 | rs267608068  | TT       |
| MSH6 | rs63751419   | CC       |
| MSH6 | rs63750138   | CC       |
| MSH6 | rs63751017   | CC       |
| MSH6 | rs587779246  | CC       |
| MSH6 | rs63750563   | CC       |
| MSH6 | rs587779252  | GG       |
| MSH6 | rs267608098  | AA       |
| MSH6 | rs587779279  | GG       |
| MSH6 | rs267608066  | CC       |
| MSH6 | rs267608048  | CC       |
| MSH6 | rs200492211  | CC       |
| MSH6 | rs587781462  | CC       |
| MSH6 | rs786201042  | CC       |
| MSH6 | rs786201049  | GG       |
| MSH6 | rs864622153  | CC       |
| MSH6 | rs876660943  | GG       |
| MSH6 | rs1064795256 | CC       |
| MSH6 | rs587779204  | TT       |
| MSH6 | rs587779215  | CC       |
| MSH6 | rs63751127   | CC       |
| MSH6 | rs63751321   | CC       |
| MSH6 | rs63750111   | CC       |
| MSH6 | rs63750258   | GG       |
| MSH6 | rs63749999   | CC       |
| MSH6 | rs587779255  | GG       |
|      |              |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### **MUTYH:** colorrectal cancer

MUTYH gene mutations may be related to diseases such as MYH-associated polyposis and colorrectal cancer.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MUTYH | rs34612342  | TT       |
| MUTYH | rs121908380 | GG       |
| MUTYH | rs121908381 | CC       |
| MUTYH | rs200495564 | GG       |
| MUTYH | rs587780082 | GG       |
| MUTYH | rs587780088 | GG       |
| MUTYH | rs587781295 | CC       |
| MUTYH | rs587781337 | CC       |
| MUTYH | rs587781338 | GG       |
| MUTYH | rs140342925 | CC       |
| MUTYH | rs587781628 | TT       |
| MUTYH | rs587782228 | CC       |
| MUTYH | rs529008617 | GG       |
| MUTYH | rs587782730 | AA       |
| MUTYH | rs587782885 | GG       |
| MUTYH | rs587783057 | GG       |
| MUTYH | rs558173961 | GG       |
| MUTYH | rs730881833 | CC       |
| MUTYH | rs143353451 | CC       |
| MUTYH | rs730881832 | AA       |
| MUTYH | rs376790729 | CC       |
| MUTYH | rs374950566 | GG       |
| MUTYH | rs786203115 | GG       |
| MUTYH | rs34126013  | GG       |
| MUTYH | rs747993448 | GG       |
| MUTYH | rs786203161 | TT       |
| MUTYH | rs372267274 | CC       |
| MUTYH | rs765123255 | GG       |
| MUTYH | rs863224502 | TT       |
| MUTYH | rs863224452 | TT       |
| MUTYH | rs876659420 | CC       |
|       |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### NBN: breast, ovarian, colorrectal and gastric cancer

NBN gene mutations may be related to diseases such as breast, ovarian, colorrectal and gastric cancer.

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| NBN  | rs121908973  | GG       |
| NBN  | rs121908974  | GG       |
| NBN  | rs587782130  | GG       |
| NBN  | rs587782545  | TT       |
| NBN  | rs730881857  | GG       |
| NBN  | rs730881850  | AA       |
| NBN  | rs142301194  | AA       |
| NBN  | rs786201965  | CC       |
| NBN  | rs786203223  | AA       |
| NBN  | rs786201745  | CC       |
| NBN  | rs574673404  | CC       |
| NBN  | rs786204181  | CC       |
| NBN  | rs767215758  | GG       |
| NBN  | rs786205135  | AA       |
| NBN  | rs864622090  | TT       |
| NBN  | rs876659521  | TT       |
| NBN  | rs1057517262 | CC       |
| NBN  | rs756363734  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### NF1: type 1 neurofibromatosis

NF1 gene mutations may be related to diseases such as type 1 neurofibromatosis.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| NF1  | rs137854550 | AA       |
| NF1  | rs137854552 | CC       |
| NF1  | rs137854560 | CC       |
| NF1  | rs267606599 | GG       |
| NF1  | rs137854556 | GG       |
| NF1  | rs267606603 | GG       |
| NF1  | rs137854559 | CC       |
| NF1  | rs267606604 | AA       |
| NF1  | rs137854562 | CC       |
| NF1  | rs137854563 | TT       |
| NF1  | rs397514641 | CC       |
| NF1  | rs199474737 | TT       |
| NF1  | rs199474760 | AA       |
| NF1  | rs199474762 | TT       |
| NF1  | rs199474746 | CC       |
| NF1  | rs199474747 | TT       |
| NF1  | rs199474786 | TT       |
| NF1  | rs199474742 | CC       |
| NF1  | rs199474790 | AA       |
| NF1  | rs587781517 | GG       |
| NF1  | rs587781577 | GG       |
| NF1  | rs587782088 | GG       |
| NF1  | rs786203448 | CC       |
| NF1  | rs786203390 | GG       |
| NF1  | rs786202112 | GG       |
| NF1  | rs772295894 | CC       |
| NF1  | rs786202457 | CC       |
| NF1  | rs786201367 | CC       |
| NF1  | rs768638173 | CC       |
| NF1  | rs786204211 | TT       |
| NF1  | rs786204253 | TT       |
|      |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### NF2: Familial multiple meningioma

Mutations of the NF2 gene may be related to diseases such as multiple familial meningiomas.

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| NF2  | rs121434259  | CC       |
| NF2  | rs74315496   | CC       |
| NF2  | rs74315499   | CC       |
| NF2  | rs74315503   | GG       |
| NF2  | rs74315504   | CC       |
| NF2  | rs74315505   | GG       |
| NF2  | rs794728682  | GG       |
| NF2  | rs878853925  | AA       |
| NF2  | rs1060503667 | CC       |
| NF2  | rs1060503670 | AA       |
| NF2  | rs1060503666 | AA       |
| NF2  | rs1064796632 | GG       |
| NF2  | rs917257652  | CC       |
| NF2  | rs587776562  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### NTHL1: Attenuated familial adenomatous polyposis

Mutations of the NTHL1 gene may be related to diseases such as familial adenomatous polyposis and colorectal cancer. In addition, some studies associated this gene, to a lesser extent, with other cancers, such as breast cancer.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| NTHL1 | rs146347092 | GG       |
| NTHL1 | rs779757251 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### RAD50: breast and pancreatic cancer

RAD50 gene mutations may be related to diseases such as breast and pancreatic cancer

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PALB2 | rs118203997 | AA       |
| PALB2 | rs118203998 | GG       |
| PALB2 | rs118203999 | GG       |
| PALB2 | rs180177097 | GG       |
| PALB2 | rs180177103 | CC       |
| PALB2 | rs180177083 | GG       |
| PALB2 | rs180177111 | GG       |
| PALB2 | rs180177112 | CC       |
| PALB2 | rs587776417 | CC       |
| PALB2 | rs180177122 | CC       |
| PALB2 | rs515726099 | CC       |
| PALB2 | rs180177132 | CC       |
| PALB2 | rs515726111 | CC       |
| PALB2 | rs587776527 | GG       |
| PALB2 | rs180177091 | GG       |
| PALB2 | rs180177100 | GG       |
| PALB2 | rs587778587 | CC       |
| PALB2 | rs587776423 | CC       |
| PALB2 | rs375699023 | GG       |
| PALB2 | rs587782005 | TT       |
| PALB2 | rs180177110 | GG       |
| PALB2 | rs587782446 | GG       |
| PALB2 | rs587776411 | GG       |
| PALB2 | rs587776413 | GG       |
| PALB2 | rs587776419 | CC       |
| PALB2 | rs587776407 | GG       |
| PALB2 | rs730881888 | AA       |
| PALB2 | rs730881876 | CC       |
| PALB2 | rs730881905 | CC       |
| PALB2 | rs730881879 | TT       |
| PALB2 | rs730881897 | TT       |
|       |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# PMS2: Lynch syndrome and colorrectal cancer

PMS2 gene mutations may be related to diseases such as Lynch Syndrome and colorrectal cancer.

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| PMS2 | rs63751466   | GG       |
| PMS2 | rs63750451   | GG       |
| PMS2 | rs121434629  | CC       |
| PMS2 | rs267608158  | AA       |
| PMS2 | rs587778617  | GG       |
| PMS2 | rs63750490   | TT       |
| PMS2 | rs63751422   | GG       |
| PMS2 | rs201451115  | TT       |
| PMS2 | rs267608172  | CC       |
| PMS2 | rs587779338  | GG       |
| PMS2 | rs587779343  | GG       |
| PMS2 | rs267608153  | CC       |
| PMS2 | rs200640585  | GG       |
| PMS2 | rs587780062  | GG       |
| PMS2 | rs587780064  | CC       |
| PMS2 | rs587778618  | GG       |
| PMS2 | rs587780724  | GG       |
| PMS2 | rs587781339  | TT       |
| PMS2 | rs730881919  | CC       |
| PMS2 | rs863224450  | CC       |
| PMS2 | rs876659736  | TT       |
| PMS2 | rs1064794577 | CC       |
| PMS2 | rs1064794083 | AA       |
| PMS2 | rs988423880  | CC       |
| PMS2 | rs1458321358 | GG       |
| PMS2 | rs63750871   | GG       |
| PMS2 | rs267608161  | CC       |
| PMS2 | rs63750261   | GG       |
| PMS2 | rs587779347  | TT       |
| PMS2 | rs141577476  | GG       |
| PMS2 | rs786201047  | GG       |
|      |              |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### POLD1: breast, ovarian, uterine and colorrectal cancer

POLD1 gene mutations may be related to diseases such breast, ovarian, uterine and colorrectal cancer.

Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| POLD1 | rs587777627 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### POLE: ovarian, uterine, colorrectal andpancreatic cancer

POLE gene mutations may be related to diseases such ovarian, uterine, colorrectal andpancreatic cancer.

Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| POLE | rs483352909 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### MSH3-related attenuated familial adenomatous polyposis

Mutations of the MSH3 gene may be related to diseases such as familial adenomatous polyposis and colorectal and stomach cancer.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MSH3 | rs539295465 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### POT1: Familial melanoma

Mutations of the POT1 gene may be related to diseases such as familial melanoma. In addition, some studies associated this gene, to a lesser extent, with gliomas.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| POT1 | rs756198077 | GG       |
| POT1 | rs531061783 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### PTCH1: Basal cell carcinoma

Mutations of the PTCH1 gene may be related to diseases such as basal cell carcinoma and skin cancer.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PTCH1 | rs786204056 | AA       |
| PTCH1 | rs863224443 | TT       |
| PTCH1 | rs863224444 | CC       |
| PTCH1 | rs863224487 | AA       |
| PTCH1 | rs863224486 | GG       |
| PTCH1 | rs863225054 | TT       |
| PTCH1 | rs864622293 | CC       |
| PTCH1 | rs779388970 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### PTEN: breast, uterine and colorrectal cancer

PTEN gene mutations may be related to diseases such as breast, uterine and colorrectal cancer.

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| PTEN | rs121909224  | CC       |
| PTEN | rs121909238  | AA       |
| PTEN | rs121909239  | AA       |
| PTEN | rs121909240  | TT       |
| PTEN | rs397514559  | CC       |
| PTEN | rs397514560  | CC       |
| PTEN | rs587782360  | AA       |
| PTEN | rs786204863  | GG       |
| PTEN | rs786204865  | AA       |
| PTEN | rs121913293  | CC       |
| PTEN | rs863224909  | CC       |
| PTEN | rs1057519368 | TT       |
| PTEN | rs876660507  | GG       |
| PTEN | rs1057517809 | GG       |
| PTEN | rs370795352  | TT       |
| PTEN | rs1114167667 | TT       |
| PTEN | rs121909218  | GG       |
| PTEN | rs121909219  | CC       |
| PTEN | rs121909221  | TT       |
| PTEN | rs121909222  | AA       |
| PTEN | rs121909223  | TT       |
| PTEN | rs587776667  | GG       |
| PTEN | rs121909225  | TT       |
| PTEN | rs121909226  | TT       |
| PTEN | rs121909227  | CC       |
| PTEN | rs121909228  | GG       |
| PTEN | rs121909229  | GG       |
| PTEN | rs121909231  | CC       |
| PTEN | rs121909232  | CC       |
| PTEN | rs121909241  | GG       |
| PTEN | rs398123321  | TT       |
|      |              |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### RAD50: breast and ovarian cancer

RAD50 gene mutations may be related to diseases such as breast and ovarian cancer.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| RAD50 | rs373428259 | CC       |
| RAD50 | rs587780150 | CC       |
| RAD50 | rs377260382 | GG       |
| RAD50 | rs587781904 | CC       |
| RAD50 | rs587782078 | GG       |
| RAD50 | rs587782090 | GG       |
| RAD50 | rs149201802 | CC       |
| RAD50 | rs587781742 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### **RAD51C:** ovarian cancer

RAD51C gene mutations may be related to diseases such as ovarian cancer.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| RAD51C | rs267606997 | GG       |
| RAD51C | rs267606999 | GG       |
| RAD51C | rs387907159 | CC       |
| RAD51C | rs587780259 | AA       |
| RAD51C | rs200293302 | CC       |
| RAD51C | rs587781490 | AA       |
| RAD51C | rs587782036 | GG       |
| RAD51C | rs587782702 | GG       |
| RAD51C | rs587782818 | CC       |
| RAD51C | rs730881931 | TT       |
| RAD51C | rs786201909 | TT       |
| RAD51C | rs770637624 | CC       |
| RAD51C | rs757128712 | GG       |
| RAD51C | rs767796996 | GG       |
| RAD51C | rs760235677 | GG       |
| RAD51C | rs876659874 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **RB1: Lynch syndrome and retinoblastoma**

Mutations of the RB1 gene may be related to a rare inherited cancer-predisposing syndrome characterized by a predisposition to a wide variety of cancers, including neoplasms of the digestive tract, urinary tract, kidney, endometrium, ovary, brain, and prostate, as well as sebaceous skin tumors. In addition, some studies associated this gene, to a lesser extent, with other cancers, such as retinoblastoma.

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=790

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| RB1  | rs3092891    | CC       |
| RB1  | rs137853293  | CC       |
| RB1  | rs121913301  | AA       |
| RB1  | rs137853294  | CC       |
| RB1  | rs121913304  | CC       |
| RB1  | rs137853296  | TT       |
| RB1  | rs137853297  | TT       |
| RB1  | rs483352690  | GG       |
| RB1  | rs587778864  | CC       |
| RB1  | rs121913305  | CC       |
| RB1  | rs587778871  | GG       |
| RB1  | rs587778850  | GG       |
| RB1  | rs587778839  | TT       |
| RB1  | rs121913296  | GG       |
| RB1  | rs587778870  | CC       |
| RB1  | rs587778842  | CC       |
| RB1  | rs121913300  | CC       |
| RB1  | rs587776783  | GG       |
| RB1  | rs587778831  | GG       |
| RB1  | rs587778846  | GG       |
| RB1  | rs121913302  | CC       |
| RB1  | rs121913303  | CC       |
| RB1  | rs794727199  | GG       |
| RB1  | rs794727481  | GG       |
| RB1  | rs878853947  | TT       |
| RB1  | rs878853949  | CC       |
| RB1  | rs886043247  | CC       |
| RB1  | rs1060503088 | TT       |
| RB1  | rs1060503067 | GG       |
| RB1  | rs1060503079 | CC       |
| RB1  | rs1060503074 | TT       |
|      |              |          |



#### **RECQL4: Stomach and colon cancer**

Mutations of the RECQL4 gene may be related to diseases such as stomach and colon cancer. In addition, some studies associated this gene with other cancers, such as endometrial cancer, to a lesser extent.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| RECQL4 | rs137853229 | GG       |
| RECQL4 | rs117642173 | CC       |
| RECQL4 | rs386833844 | GG       |
| RECQL4 | rs386833851 | GG       |
| RECQL4 | rs398124117 | CC       |
| RECQL4 | rs373130543 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **RET: thyroid carcinoma**

RET gene mutations may be related to diseases such thyroid carcinoma.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| RET  | rs76262710  | TT       |
| RET  | rs75076352  | TT       |
| RET  | rs75996173  | GG       |
| RET  | rs79781594  | GG       |
| RET  | rs77316810  | TT       |
| RET  | rs77503355  | GG       |
| RET  | rs77709286  | CC       |
| RET  | rs77939446  | GG       |
| RET  | rs77558292  | TT       |
| RET  | rs75873440  | GG       |
| RET  | rs75234356  | TT       |
| RET  | rs377767404 | TT       |
| RET  | rs267607011 | CC       |
| RET  | rs74799832  | TT       |
| RET  | rs78014899  | GG       |
| RET  | rs377767391 | TT       |
| RET  | rs377767412 | GG       |
| RET  | rs143795581 | AA       |
| RET  | rs193922699 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **SDHA**: gastric cancer

SDHA gene mutations may be related to diseases such gastric cancer.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SDHA | rs137852768 | GG       |
| SDHA | rs142441643 | CC       |
| SDHA | rs781764920 | CC       |
| SDHA | rs151170408 | CC       |
| SDHA | rs766667009 | GG       |
| SDHA | rs748089700 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# SDHAF2: Hereditary pheochromocytoma-paraganglioma

Mutations of the SDHAF2 gene may be related to diseases such as pheochromocytoma/paraganglioma tumors.

Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SDHAF2 | rs113560320 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **SDHB:** gastric cancer

SDHB gene mutations may be related to diseases such as gastric cancer.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SDHB | rs74315366  | GG       |
| SDHB | rs74315367  | GG       |
| SDHB | rs74315368  | CC       |
| SDHB | rs74315369  | GG       |
| SDHB | rs74315370  | GG       |
| SDHB | rs74315372  | TT       |
| SDHB | rs398122805 | CC       |
| SDHB | rs267607032 | CC       |
| SDHB | rs202101384 | TT       |
| SDHB | rs397516833 | CC       |
| SDHB | rs397516835 | CC       |
| SDHB | rs397516836 | CC       |
| SDHB | rs587781270 | AA       |
| SDHB | rs587782243 | CC       |
| SDHB | rs587782604 | CC       |
| SDHB | rs727504457 | AA       |
| SDHB | rs786201085 | CC       |
| SDHB | rs786203251 | GG       |
| SDHB | rs138996609 | GG       |
| SDHB | rs200245469 | GG       |
| SDHB | rs786202732 | AA       |
| SDHB | rs786201161 | TT       |
| SDHB | rs786203506 | GG       |
| SDHB | rs786201063 | CC       |
| SDHB | rs772551056 | CC       |
| SDHB | rs786203800 | AA       |
| SDHB | rs751000085 | GG       |
| SDHB | rs864321636 | CC       |
| SDHB | rs876658461 | GG       |
| SDHB | rs876658367 | CC       |
| SDHB | rs876658451 | GG       |
|      |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **SDHC**: gastric cancer

SDHC gene mutations may be related to diseases such gastric cancer.

# Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| SDHC | rs587776652  | GG       |
| SDHC | rs201286421  | CC       |
| SDHC | rs786203457  | AA       |
| SDHC | rs764575966  | CC       |
| SDHC | rs1057517818 | GG       |
| SDHC | rs755235380  | AA       |
| SDHC | rs981049067  | GG       |
| SDHC | rs1131691062 | AA       |
| SDHC | rs898854295  | AA       |
| SDHC | rs587776653  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# SDHD: breast, uterine and gastric cancer

SDHD gene mutations may be related to diseases such breast, uterine and gastric cancer.

# Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| SDHD | rs80338844   | CC       |
| SDHD | rs80338845   | GG       |
| SDHD | rs104894302  | AA       |
| SDHD | rs104894304  | AA       |
| SDHD | rs878854594  | CC       |
| SDHD | rs1060503769 | GG       |
| SDHD | rs786202403  | CC       |
| SDHD | rs786203932  | GG       |
| SDHD | rs1060503770 | CC       |
| SDHD | rs1050032491 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **BAP1-related tumor predisposition syndrome**

Mutations of the BAP1 gene may be related to diseases such as renal cell carcinoma and breast cancer. In addition, some studies associated this gene, to a lesser extent, with meningioma and ovarian and kidney cancer.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| BAP1 | rs387906848 | GG       |
| BAP1 | rs864622592 | GG       |
| BAP1 | rs200156887 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=289539



# SMAD4: juvenile polyposis syndrome and colorrectal cancer

SMAD4 gene mutations may be related to diseases such as Juvenile Polyposis Syndrome and colorrectal cancer. Some studies have associated this gene, to a lesser extent, with pancreatic cancer.

### Your genetic map

| Gene  | SNP          | Genotype |
|-------|--------------|----------|
| SMAD4 | rs80338963   | CC       |
| SMAD4 | rs80338964   | CC       |
| SMAD4 | rs377767326  | CC       |
| SMAD4 | rs377767331  | CC       |
| SMAD4 | rs121912581  | GG       |
| SMAD4 | rs377767347  | GG       |
| SMAD4 | rs377767350  | TT       |
| SMAD4 | rs377767360  | CC       |
| SMAD4 | rs377767382  | TT       |
| SMAD4 | rs377767353  | GG       |
| SMAD4 | rs587781359  | CC       |
| SMAD4 | rs587781618  | GG       |
| SMAD4 | rs863224507  | TT       |
| SMAD4 | rs876660079  | GG       |
| SMAD4 | rs876660556  | GG       |
| SMAD4 | rs878854769  | GG       |
| SMAD4 | rs1060500738 | TT       |
| SMAD4 | rs1060500733 | CC       |
| SMAD4 | rs1060500740 | TT       |
| SMAD4 | rs1316902116 | CC       |
| SMAD4 | rs377767371  | GG       |
| SMAD4 | rs281875321  | TT       |
| SMAD4 | rs281875322  | AA       |
| SMAD4 | rs397518413  | CC       |
| SMAD4 | rs730881954  | CC       |
| SMAD4 | rs876658694  | CC       |
| SMAD4 | rs1057519739 | GG       |
| SMAD4 | rs863224400  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### **SMARCA4**: ovarian cancer

SMARCA4 gene mutations may be related to diseases such ovarian cancer.

# Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SMARCA | rs281875227 | CC       |
| SMARCA | rs587779750 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### **SMARCB1: Familial rhabdoid tumor**

Mutations of the SMARCB1 gene may be related to diseases such as schwannomatosis.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SMARCB1 | rs797045989 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **SMARCE1: Familial multiple meningioma**

Mutations of the SMARCE1 gene may be related to diseases such as multiple familial meningiomas.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SMARCE1 | rs387906857 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=263662



# STK11: breast, ovarian, uterine, colorrectal, gastric and pancreatic cancer

STK11 gene mutations may be related to diseases such breast, ovarian, uterine, colorrectal, gastric and pancreatic cancer.

### Your genetic map

| Gene  | SNP          | Genotype |
|-------|--------------|----------|
| STK11 | rs730881975  | GG       |
| STK11 | rs137853076  | AA       |
| STK11 | rs137854584  | GG       |
| STK11 | rs121913315  | GG       |
| STK11 | rs137853082  | GG       |
| STK11 | rs137853083  | CC       |
| STK11 | rs587782018  | GG       |
| STK11 | rs730881971  | GG       |
| STK11 | rs730881979  | GG       |
| STK11 | rs730881984  | GG       |
| STK11 | rs786202134  | CC       |
| STK11 | rs786201090  | CC       |
| STK11 | rs730881976  | CC       |
| STK11 | rs863224448  | GG       |
| STK11 | rs876658584  | AA       |
| STK11 | rs886037926  | AA       |
| STK11 | rs886037859  | AA       |
| STK11 | rs886039554  | GG       |
| STK11 | rs398123406  | GG       |
| STK11 | rs1057517830 | GG       |
| STK11 | rs121913324  | CC       |
| STK11 | rs775595174  | GG       |
| STK11 | rs786201213  | CC       |
| STK11 | rs1131690950 | GG       |
| STK11 | rs1131690925 | CC       |
| STK11 | rs1131690951 | AA       |
| STK11 | rs730881973  | CC       |
| STK11 | rs1131690923 | CC       |
| STK11 | rs1131690940 | CC       |
| STK11 | rs1131690921 | GG       |
| STK11 | rs1131690945 | CC       |
|       |              |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### **TERT: Familial melanoma**

Mutations of the TERT gene may be related to diseases such as familial melanoma.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TERT | rs121918666 | CC       |
| TERT | rs770066110 | GG       |
| TERT | rs797046041 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# TP53: Li-Fraumeni syndrome, breast cancer and more

TP53 gene mutations may be related to diseases such Li-Fraumeni Syndrome; and breast, ovarian, uterine, colorrectal and pancreatic cancer. There are some studies that have associated this gene, to a lesser extent, with gastric cancer.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TP53 | rs121912652 | CC       |
| TP53 | rs28934575  | CC       |
| TP53 | rs121912655 | CC       |
| TP53 | rs11540652  | CC       |
| TP53 | rs28934873  | AA       |
| TP53 | rs121912657 | CC       |
| TP53 | rs28934574  | GG       |
| TP53 | rs28934578  | CC       |
| TP53 | rs121912662 | AA       |
| TP53 | rs28934875  | CC       |
| TP53 | rs121912664 | CC       |
| TP53 | rs121912666 | TT       |
| TP53 | rs121912667 | TT       |
| TP53 | rs397514495 | CC       |
| TP53 | rs397516434 | GG       |
| TP53 | rs397516435 | GG       |
| TP53 | rs397516439 | TT       |
| TP53 | rs267605076 | CC       |
| TP53 | rs201744589 | CC       |
| TP53 | rs483352695 | TT       |
| TP53 | rs11540654  | CC       |
| TP53 | rs587780068 | GG       |
| TP53 | rs587780071 | GG       |
| TP53 | rs587780073 | TT       |
| TP53 | rs587780074 | AA       |
| TP53 | rs587778720 | CC       |
| TP53 | rs587781589 | AA       |
| TP53 | rs587781664 | TT       |
| TP53 | rs587781702 | CC       |
| TP53 | rs55832599  | GG       |
| TP53 | rs17882252  | CC       |
|      |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=145



# VHL: Von Hippel-Lindau syndrome

VHL gene mutations may be related to diseases such Von Hippel-Lindau Syndrome.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| VHL  | rs5030823   | CC       |
| VHL  | rs104893826 | GG       |
| VHL  | rs5030818   | CC       |
| VHL  | rs5030820   | CC       |
| VHL  | rs104893824 | TT       |
| VHL  | rs5030809   | TT       |
| VHL  | rs104893825 | GG       |
| VHL  | rs104893830 | GG       |
| VHL  | rs28940297  | TT       |
| VHL  | rs28940301  | CC       |
| VHL  | rs5030827   | GG       |
| VHL  | rs5030808   | GG       |
| VHL  | rs267607170 | AA       |
| VHL  | rs193922608 | CC       |
| VHL  | rs193922609 | GG       |
| VHL  | rs193922610 | CC       |
| VHL  | rs193922613 | AA       |
| VHL  | rs5030826   | CC       |
| VHL  | rs5030802   | GG       |
| VHL  | rs397516440 | CC       |
| VHL  | rs397516441 | AA       |
| VHL  | rs5030817   | GG       |
| VHL  | rs397516444 | GG       |
| VHL  | rs397516445 | TT       |
| VHL  | rs5030804   | AA       |
| VHL  | rs398123481 | CC       |
| VHL  | rs587780077 | GG       |
| VHL  | rs727504215 | GG       |
| VHL  | rs730882034 | CC       |
| VHL  | rs119103277 | GG       |
| VHL  | rs730882032 | GG       |
|      |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=892



### WT1: Nephroblastoma

Mutations of the WT1 gene may be related to diseases such as rare malignant renal and Wilms tumors.

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| WT1  | rs121907909  | GG       |
| WT1  | rs28942089   | GG       |
| WT1  | rs121907900  | GG       |
| WT1  | rs121907901  | CC       |
| WT1  | rs121907902  | TT       |
| WT1  | rs28941778   | CC       |
| WT1  | rs587776576  | CC       |
| WT1  | rs121907906  | GG       |
| WT1  | rs587776577  | GG       |
| WT1  | rs121907910  | GG       |
| WT1  | rs1423753702 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Familial adenomatous polyposis

Familial adenomatous polyposis (FAP) is characterized by the development of hundreds to thousands of adenomas in the rectum and colon during the second decade of life.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| APC  | rs387906230 | TT       |
| APC  | rs137854568 | CC       |
| APC  | rs137854569 | CC       |
| APC  | rs137854570 | CC       |
| APC  | rs121913327 | CC       |
| APC  | rs137854572 | CC       |
| APC  | rs137854573 | CC       |
| APC  | rs137854574 | CC       |
| APC  | rs137854577 | CC       |
| APC  | rs137854580 | CC       |
| APC  | rs137854582 | TT       |
| APC  | rs199740875 | GG       |
| APC  | rs141576417 | CC       |
| APC  | rs397515734 | CC       |
| APC  | rs74953290  | CC       |
| APC  | rs77056664  | CC       |
| APC  | rs398123116 | GG       |
| APC  | rs398123117 | CC       |
| APC  | rs398123121 | CC       |
| APC  | rs587779780 | CC       |
| APC  | rs587779783 | CC       |
| APC  | rs587779786 | AA       |
| APC  | rs587779798 | GG       |
| APC  | rs587781392 | CC       |
| APC  | rs587781809 | TT       |
| APC  | rs587782518 | CC       |
| APC  | rs587783029 | CC       |
| APC  | rs587783035 | AA       |
| APC  | rs376213437 | TT       |
| APC  | rs730881240 | CC       |
| APC  | rs145945630 | CC       |
|      |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=733



### **Kenny-Caffey syndrome**

A rare inherited cancer-predisposing syndrome characterized by predisposition to a wide variety of cancers, including neoplasms of the digestive tract, urinary tract, kidney, endometrium, ovary, brain, and prostate, as well as sebaceous skin tumors, depending on the gene involved. Tumors may occur at any age but often arise in young people. Factors influencing individual tumor risk include sex, age, affected gene, and personal history of cancer.

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=144

### Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| AIMP2    | rs587779333 | TT       |
| EPM2AIP1 | rs63750580  | AA       |
| EPM2AIP1 | rs267607706 | CC       |
| EPM2AIP1 | rs587778967 | AA       |
| EPM2AIP1 | rs111052004 | TT       |
| EPM2AIP1 | rs72481822  | GG       |
| EPM2AIP1 | rs63750648  | AA       |
| EPM2AIP1 | rs63750706  | CC       |
| MLH1     | rs63750781  | CC       |
| MLH1     | rs193922370 | GG       |
| MLH1     | rs267607816 | GG       |
| MLH1     | rs267607713 | GG       |
| MLH1     | rs267607832 | GG       |
| MLH1     | rs267607837 | GG       |
| MLH1     | rs63750193  | TT       |
| MLH1     | rs63751596  | GG       |
| MLH1     | rs63751460  | CC       |
| MLH1     | rs63749792  | CC       |
| MLH1     | rs63750610  | CC       |
| MLH1     | rs63751202  | TT       |
| MLH1     | rs63751662  | GG       |
| MLH1     | rs267607884 | GG       |
| MLH1     | rs63750603  | GG       |
| MLH1     | rs63750561  | GG       |
| MLH1     | rs63751022  | GG       |
| MLH1     | rs63749859  | TT       |
| MLH1     | rs63749990  | TT       |
| MLH1     | rs587778998 | AA       |
| MLH1     | rs63750266  | GG       |
| MLH1     | rs267607727 | GG       |
| MLH1     | rs63750453  | GG       |
|          |             |          |



# Complex Diseases: Multivariate Analysis

### **Septic shock**

Septic shock is a highly serious condition in the development of sepsis. Its symptoms generally match those of this condition, but usually also include dangerously low blood pressure, a decrease in the amount of urine produced, and changes in mental status. These profound circulatory, cellular, and metabolic abnormalities, specific to septic shock, are associated with a higher risk of mortality than in sepsis, making it a critical condition. DNA also plays an essential role in this condition, as the SFTPB and TNFAIP3 genes have been linked to genetic susceptibility to septic shock.

### Your genetic map

| Gene    | SNP       | Genotype |
|---------|-----------|----------|
| SFTPB   | rs1130866 | AG       |
| TNFAIP3 | rs6920220 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



Based on your genotype, you are not particularly predisposed to septic shock. Other genetic and clinical factors may play a role.

#### More information:

https://dx.doi.org/10.1097/01.ccm.0000124872.55243.5a



# Complex Diseases: Multivariate Analysis

# TSC1: tuberous sclerosis complex 1

TSC1 gene mutations may be related to diseases such as tuberous sclerosis complex 1.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TSC1 | rs118203419 | CC       |
| TSC1 | rs118203447 | AA       |
| TSC1 | rs118203426 | AA       |
| TSC1 | rs118203537 | GG       |
| TSC1 | rs118203542 | GG       |
| TSC1 | rs118203549 | GG       |
| TSC1 | rs118203345 | AA       |
| TSC1 | rs118203606 | GG       |
| TSC1 | rs118203610 | CC       |
| TSC1 | rs118203614 | CC       |
| TSC1 | rs118203631 | GG       |
| TSC1 | rs118203353 | CC       |
| TSC1 | rs118203352 | TT       |
| TSC1 | rs118203647 | GG       |
| TSC1 | rs118203661 | GG       |
| TSC1 | rs118203668 | GG       |
| TSC1 | rs118203680 | GG       |
| TSC1 | rs118203682 | GG       |
| TSC1 | rs118203687 | CC       |
| TSC1 | rs118203727 | GG       |
| TSC1 | rs118203728 | GG       |
| TSC1 | rs118203732 | GG       |
| TSC1 | rs118203384 | GG       |
| TSC1 | rs118203387 | CC       |
| TSC1 | rs118203402 | CC       |
| TSC1 | rs118203403 | AA       |
| TSC1 | rs118203423 | CC       |
| TSC1 | rs118203427 | GG       |
| TSC1 | rs118203434 | GG       |
| TSC1 | rs118203438 | CC       |
| TSC1 | rs118203440 | TT       |
|      |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Complex Diseases: Multivariate Analysis

# TSC2: tuberous sclerosis complex 2

TSC2 gene mutations may be related to diseases such as tuberous sclerosis complex 2

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| TSC2 | rs45483392   | CC       |
| TSC2 | rs45517179   | CC       |
| TSC2 | rs28934872   | GG       |
| TSC2 | rs121964862  | CC       |
| TSC2 | rs45516293   | AA       |
| TSC2 | rs45517259   | GG       |
| TSC2 | rs45517258   | CC       |
| TSC2 | rs45515894   | GG       |
| TSC2 | rs45517218   | GG       |
| TSC2 | rs137854380  | AA       |
| TSC2 | rs397514994  | GG       |
| TSC2 | rs397515169  | AA       |
| TSC2 | rs794727602  | AA       |
| TSC2 | rs794727906  | GG       |
| TSC2 | rs796053484  | GG       |
| TSC2 | rs796053492  | GG       |
| TSC2 | rs796053509  | GG       |
| TSC2 | rs773920155  | GG       |
| TSC2 | rs886041772  | CC       |
| TSC2 | rs368710573  | CC       |
| TSC2 | rs886041919  | CC       |
| TSC2 | rs1057518230 | GG       |
| TSC2 | rs1057523509 | TT       |
| TSC2 | rs1057521562 | GG       |
| TSC2 | rs1060499676 | CC       |
| TSC2 | rs1060500931 | CC       |
| TSC2 | rs1060500972 | GG       |
| TSC2 | rs1060500924 | GG       |
| TSC2 | rs1064796970 | GG       |
| TSC2 | rs1085307853 | GG       |
| TSC2 | rs1131691794 | GG       |
|      |              |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# The severity of COVID-19 infection

Coronavirus (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus, which caused a global pandemic in 2020. Severe disease status occurs in 5% of patients overall and 22 % of patients hospitalized, and it may assume that those affected require mechanical ventilation due to respiratory failure; who suffer from other organ failures such as coagulopathy, acute myocardial or renal lesions; and in the worst case, death. Preventing the progression toward the critical state of the disease is essential to reduce the mortality rate. A 2020 study, in which hundreds of international institutions and companies collaborated (24Genetics amond them) demonstrated interrelationship of genetics and Covid-19 since it was possible to verify that the TYK2 gene was related to the genetic predisposition to evolve towards the severe condition of Covid-19.

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, you are predisposed to evolve to a severe state of this disease, similar to most of the population. Other genetic and clinical factors may play a role.

#### More information:

https://www.nature.com/articles/s41586-021-03767-x

#### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| APCDD1L | rs117463534 | CC       |
| DPP9    | rs2109069   | GG       |
| FYCO1   | rs13079478  | GG       |
| IFNAR2  | rs1131964   | TC       |
| KAT7    | rs3785928   | GG       |
| LAMB1   | rs2237698   | CC       |
| LOC1053 | rs676314    | AA       |
| LOC1053 | rs79708423  | CC       |
| LOC1053 | rs4076440   | AG       |
| NLN     | rs114969787 | CC       |
| OAS3    | rs10735079  | AG       |
| THBS3   | rs35154152  | TT       |
| TNFSF15 | rs6478109   | GG       |
| TYK2    | rs2304256   | AC       |
| Unknown | rs1264701   | GG       |



# **Severe Acute Respiratory Syndrome (SARS)**

Severe acute respiratory syndrome (SARS) is a highly infectious disease caused by the SARS-CoV virus, which can cause severe lung infections in humans. Initial symptoms often include fever, headache, and muscle pain, followed by respiratory symptoms such as cough, shortness of breath, and pneumonia. In addition, SARS patients often show a decrease in the number of lymphocytes in the blood, which usually affects the severity of the disease. Personal genetics play an important role in predisposing to SARS-CoV infection. Specifically, specific variants in genes such as MBL2, IFNG, and CCL2 have been associated with a greater predisposition to suffer from SARS. Therefore, understanding the genetics of SARS may provide valuable information for developing new treatments and preventive measures for the disease.

#### Your genetic map

| Gene | SNP       | Genotype |
|------|-----------|----------|
| IFNG | rs2430561 | TA       |
| CCL2 | rs1024611 | AA       |
| MBL2 | rs1800450 | CC       |

#### **Multivariate analysis**

### What do your genetics tell us?



Depending on your genotype, you are predisposed to SARS. Other genetic and clinical factors may play a role.

#### More information:

https://www.journalofinfection.com/article/S0163-4453(15)00090-0/pdf



#### **HIV Transmission**

HIV-1 (Human Immunodeficiency Virus type 1) is a virus that usually weakens the immune system of infected people and evolves towards Acquired Immune Deficiency Syndrome (AIDS), which facilitates the appearance of opportunistic infections and cancer, whose treatment is more complicated due to the patient's immunosuppressed situation. Transmission occurs through exposure to the infected person's blood and other body fluids, so sexual contact is one of the main routes of infection. In the genetic field, it has been found that the TLR8-AS1 gene has been linked to HIV infection in women.

### Your genetic map

| Gene     | SNP       | Genotype |
|----------|-----------|----------|
| TLR7     | rs179012  | GG       |
| IL4      | rs2243250 | CC       |
| TLR8 AS1 | rs3764880 | AG       |
| TLR2     | rs3804099 | TC       |

#### **Multivariate analysis**

# What do your genetics tell us?



Based on your genotype, you are not particularly predisposed to HIV-1 infection. Other genetic and clinical factors may play a

#### More information:

https://pubmed.ncbi.nlm.nih.gov/18605904/



# **Genital herpes**

Genital herpes, or herpes simplex virus type 2 (HSV-2), is a common viral infection that causes blisters and sores on the genital area of infected people. It is a highly contagious disease that is spread through sexual contact. The infected person can transmit the virus from the time it begins to incubate until a week after the appearance of the skin lesions. There is no cure for genital herpes, and antivirals only mitigate the frequency of outbreaks. Additionally, other specific medications can be taken to treat the symptoms. Genetics plays a vital role in predisposing to genital herpes virus infection. It has been verified that specific genetic variants in the TLR3 gene are linked to a lower predisposition to contracting the herpes simplex virus type 2.

#### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| TLR3 | rs13126816 | GG       |
| TLR3 | rs3775291  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



Depending on your genotype, you do not have a particular predisposition to herpes simplex virus type 2 infection. Other genetic and clinical factors may play a role.

#### More information:

https://www.ncbi.nlm.nih.gov/pubmed/22552940



# Cirrhosis due to Hepatitis B

Hepatitis B is a severe liver infection caused by the Hepatitis B Virus (HBV). It is usually a brief infection, but sometimes it becomes chronic, increasing the risk of developing liver failure, liver cancer, or cirrhosis. Cirrhosis is a liver disease that causes lesions in the form of fibrosis when the hepatitis B virus attacks the liver, resulting in severe damage with a consequent increased risk of liver cancer. Symptoms of hepatitis B infection are usually non-existent until cirrhosis develops. Genetics is vital in predisposing to hepatitis B-related liver cirrhosis. Mutations in genes such as STAT4 and NOD2 are related to the predisposition to suffer from these pathologies.

#### Your genetic map

| Gene    | SNP       | Genotype |
|---------|-----------|----------|
| ESR1    | rs2234693 | TC       |
| LOC1053 | rs2227982 | GG       |
| NOD2    | rs2066845 | GG       |
| NOD2    | rs2066844 | CC       |
| STAT4   | rs7574865 | GG       |
| TLR3    | rs3775290 | TC       |

#### **Multivariate analysis**

### What do your genetics tell us?



Based on your genotype, you are not particularly predisposed to hepatitis B-related cirrhosis. Other genetic and clinical factors may play a role.

#### More information:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6616055/



# Community-acquired pneumonia

The so-called Community-Acquired Pneumonia (CAP), or community-acquired pneumonia, refers to pneumonia, in any of its variants, contracted by a person outside the health system, that is, in daily life. CAP is a lung infection that can be caused by multiple microorganisms (bacteria, viruses, and fungi), affects people of all ages, and occurs as a result of the oxygen-absorbing areas of the lung (alveoli) filling up. Consequently, the lung inhibits its function, causing symptoms such as dyspnea, fever, chest pain, and cough. The treatment for this pathology usually depends on the microorganism that has generated it. Genetics plays an essential role in the development of this disease, as variants in the IL6-AS1 gene have been linked to developing community-acquired pneumonia.

#### Your genetic map

| Gene    | SNP       | Genotype |
|---------|-----------|----------|
| CYP1A1  | rs2606345 | AC       |
| IL6 AS1 | rs1800795 | GC       |
| TNFRSF1 | rs1061622 | TG       |

#### **Multivariate analysis**

What do your genetics tell us?



According to your genotype, you have a low predisposition to suffer from community-acquired pneumonia. Other genetic and clinical factors may play a role.

#### More information:

https://pubmed.ncbi.nlm.nih.gov/19900796/



# Severe hospital pneumonia

Hospital Acquired Pneumonia (HAP), or nosocomial pneumonia, is a hospital-acquired lung infection that usually presents in patients 48-72 hours after admission. Bacteria mainly cause this disease, although viruses and fungi can also cause it, and it is the second most common nosocomial infection (15-20% of the total) after urinary tract infections. In general, nosocomial pneumonia is a severe and lifethreatening disease, and genetics may play an important role in susceptibility to developing a severe stage of pneumonia. It has been verified that people with specific variants in the ABCB1 and AGTR1 genes have a greater predisposition to hospital pneumonia leading to a more extended hospital stay.

#### Your genetic map

| Gene  | SNP       | Genotype |
|-------|-----------|----------|
| ABCB1 | rs1045642 | AA       |
| AGTR1 | rs5186    | AA       |

#### **Multivariate analysis**

### What do your genetics tell us?



Based on your genotype, you have a high predisposition to severe hospital-acquired pneumonia. Other genetic and clinical factors may play a role.

#### More information:

https://www.ncbi.nlm.nih.gov/pubmed/24127120



#### **Bronchitis**

Bronchitis is a respiratory disease caused by inflammation of the bronchi, which causes coughing, wheezing, shortness of breath, and chest pain. Although environmental factors, such as exposure to tobacco smoke and air pollutants, can influence the development of the disease, genetics also play a role. Specifically, the LOC100287329 gene has been related to a genetic predisposition to bronchitis. This gene produces a protein called alpha-lymphoid tumor necrosis factor, which is involved in our body's inflammatory response. Research has shown that specific genetic variants of the LOC100287329 gene may increase the susceptibility to bronchitis. Therefore, understanding the role of the LOC100287329 gene in the development of bronchitis could help to develop new therapeutic approaches for the disease.

#### Your genetic map

| Gene    | SNP       | Genotype |
|---------|-----------|----------|
| LOC1002 | rs909253  | AG       |
| LOC1002 | rs1041981 | AC       |

#### **Multivariate analysis**

### What do your genetics tell us?



According to your genotype, you do not have a particular predisposition to suffer from bronchitis. Other genetic and clinical factors may play a role.

#### More information:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5524954/pdf/41598\_2017\_Article\_6791.pdf



#### Lactose intolerance

Lactose is the main naturally-occurring sugar in milk and dairy products. It consists of a glucose molecule and a galactose molecule, two simple sugars that the body uses to produce energy. The enzyme lactase is essential for breaking down lactose into glucose and galactose, a key step in certain immune and neuronal processes. Some people cannot produce enough lactase; as a result, they do not digest lactose, which ferments in the intestine, generating gas, digestive distress, abdominal distension, and/or diarrhoea.

There are genetic factors that play an important role in lactose absorption, such as the MCM6 gene, which is directly related to this process.

#### Your genetic map

| Gene | SNP       | Genotype |
|------|-----------|----------|
| МСМ6 | rs4988235 | AA       |

#### Monovariant analysis

What do your genetics tell us?



Based on your genotype, you are predisposed to metabolise lactose easily. Other genetic and clinical factors may be relevant.

#### More information:

https://onlinelibrary.wiley.com/doi/full/10.1002/jbmr.83



### **DAO** deficiency and migraines

Diamine oxidase (DAO) is the enzyme responsible for reducing histamine, which is a molecule the body uses to respond to substances it considers harmful. With a DAO deficiency, histamine builds up, causing allergies and bothersome symptoms, which can be worsened by eating foods that contain high levels of histamine, such as tomatoes, fish preserves, processed sauces, dairy products and other foods. One of the best-known consequences of DAO deficiency is migraines, but dizziness, irritable bowel syndrome, Crohn's disease, stomach pain, nausea and/or vomiting, abnormal blood pressure and arrhythmias can also occur.

The AOC1 gene is responsible for producing the DAO enzyme, and several studies confirm that mutations in this gene create a propensity for this process to malfunction, with the consequent generation of reduced levels of DAO.

# Your genetic map

| Gene | SNP       | Genotype |
|------|-----------|----------|
| AOC1 | rs2052129 | GG       |
| AOC1 | rs1049793 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



Based on your genotype, your predisposition to have reduced DAO enzyme activity is average. Other genetic and clinical factors may be relevant.

#### More information:

https://pubmed.ncbi.nlm.nih.gov/21488903/



# Shellfish allergy

Shellfish allergy is a critical immune system reaction to proteins present mainly in crustaceans. Shrimp and other shellfish are one of the most common sources of food allergies. The symptoms are multiple and can vary from slight irritation in the area in contact with food (lips, tongue, mouth) or inflammation in the throat area, which can make breathing difficult or even impossible, to a life-threatening reaction called anaphylaxis. At the genetic level, mutations in the TH2LCRR gene have been associated with an increased risk of developing an allergy to shrimp and, by analogy, to other crustaceans.

### Your genetic map

| Gene    | SNP       | Genotype |
|---------|-----------|----------|
| IL13    | rs20541   | GG       |
| TH2LCRR | rs1800925 | CC       |
| Unknown | rs9275596 | TC       |

#### **Multivariate analysis**

What do your genetics tell us?



Based on your genotype, your predisposition to shellfish allergy is standard. Other genetic and clinical factors may play a role.

#### More information:

https://pubmed.ncbi.nlm.nih.gov/33175217/



# **Mercury Accumulation**

Mercury is a heavy metal, which reaches the body of people mainly through the ingestion of fish, is absorbed by the intestinal tract, transported through the blood, and accumulated in different body organs. Elevated levels of this heavy metal can cause damage to the gastrointestinal tract, nervous system, and kidneys, especially in infants, children, and pregnant women. At the genetic level, it has been proven that some individuals may have an easier time accumulating mercury in their blood due to their genetics. Specifically, the GCLC and GSTP1 genes code for an enzyme that helps detoxify the body of toxic compounds such as mercury and reduce cell damage.

#### Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| GSTP1 | rs1138272  | TC       |
| GCLC  | rs17883901 | GG       |

#### **Multivariate analysis**

# What do your genetics tell us?



You are predisposed to accumulate mercury in your blood depending on your genotype. Other genetic and clinical factors may play a role.

#### More information:

https://pubmed.ncbi.nlm.nih.gov/16599007/



# Allergic rhinitis

Allergic rhinitis is inflammation of the nasal mucosa, the symptoms of which are similar to those of a cold: nasal itching, sneezing, runny nose and nasal congestion, red and watery eyes, coughing, and itchy palate. Sometimes it can cause asthma or eczema. Its cause is exposure to specific allergens, mainly pollen, dust mites, fungi, or animal epithelia. Symptoms usually appear shortly after contact with the allergen. Specific immunotherapy is sometimes used for its treatment, which consists of the controlled administration of an extract of the substance that the patient is allergic to until their symptoms decrease. The condition may or may not be heritable. Still, at the genetic level, the correlation of the GLI3 gene with allergic rhinitis has been verified, which suggests an essential role in the predisposition to suffer from this pathology.

#### Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| GLI3    | rs4724100  | TT       |
| Unknown | rs6898653  | GG       |
| Unknown | rs216518   | CC       |
| Unknown | rs2155219  | TG       |
| Unknown | rs17513503 | CC       |

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, you are less predisposed to suffering from this disease than most of the population. Other genetic and clinical factors may play a role.

#### More information:

https://www.ncbi.nlm.nih.gov/pubmed/23817571



# Allergy to grass pollen

Grasses are monocotyledonous herbaceous plants with more than 800 genera and 12,000 known species, including wheat, canary grass, oats, rice, sugarcane, grass, and weeds. Their pollen is known to cause allergies in many people, manifesting in symptoms such as nasal congestion, watery eyes, hives, and even anaphylactic shock in extreme cases. Genetics plays an important role in this type of allergy, as demonstrated by variants in the DNAH5 gene, among others, which are correlated with a higher or lower predisposition to grass allergies.

### Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| HLA     | rs7775228  | TT       |
| LOC1019 | rs631208   | AG       |
| DNAH5   | rs6554809  | TC       |
| Unknown | rs7617456  | AG       |
| Unknown | rs2155219  | TG       |
| Unknown | rs17513503 | CC       |

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, you are less predisposed to suffering from this disease than most of the population. Other genetic and clinical factors may play a role.

#### More information:

https://pubmed.ncbi.nlm.nih.gov/23817571/



# Biomarkers and Others

#### Calcium levels

Calcium is vital to the normal functioning of multiple organ systems, and its serum concentration is tightly regulated.

# Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| CASR    | rs1801725  | GG       |
| DGKD    | rs1550532  | GG       |
| GCKR    | rs780094   | TC       |
| LINC007 | rs10491003 | TC       |
| CARS1   | rs7481584  | AG       |
| LOC1053 | rs7336933  | AG       |
| CYP24A1 | rs1570669  | AA       |
| WDR81   | rs12150338 | CC       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/24068962



# Biomarkers and Others

# **Phosphorus levels**

Phosphorus is an essential mineral that sustains cellular energy and mineralizes the skeleton. Because the complex actions of ion transporters and regulatory hormones regulate serum phosphorus concentrations, genetic variation may determine inter-individual variations in phosphorus metabolism.

### Your genetic map

| Gene   | SNP        | Genotype |
|--------|------------|----------|
| NBPF3  | rs1697421  | TT       |
| CSTA   | rs17265703 | AA       |
| IP6K3  | rs9469578  | CC       |
| PDE7B  | rs947583   | TT       |
| FERRY3 | rs2970818  | TT       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/20558539



# Biomarkers and Others

# Magnesium levels

Magnesium, potassium, and sodium, cations commonly measured in serum, are involved in many physiological processes, including energy metabolism, nerve and muscle function, signal transduction, and fluid and blood pressure regulation.

### Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| MUC1    | rs4072037  | TC       |
| SHROOM  | rs13146355 | GG       |
| LOC1079 | rs7965584  | AA       |
| LOC1019 | rs3925584  | TT       |
| LOC1001 | rs2592394  | GG       |
| MECOM   | rs448378   | AG       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/20700443



# Plasma omega-6 polyunsaturated fatty acid levels (dihomogamma-linolenic acid)

Omega6 (n6) Polyunsaturated Fatty Acids (PUFAs) and their metabolites are involved in cell signaling, inflammation, clot formation, and other crucial biological processes. Genetic components, such as variants of Fatty Acid Desaturase (FADS) genes, determine the composition of n6 PUFAs.

# Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| PDXDC1   | rs2280018  | AA       |
| TMEM25   | rs102275   | TC       |
| IL23R    | rs7517847  | TT       |
| C10orf12 | rs17009617 | GG       |
| FADS1    | rs174550   | TC       |
| FADS2    | rs2727270  | CC       |
| PDXDC1   | rs1136001  | GG       |
| FTLP19   | rs2069036  | CC       |
| FADS1    | rs174547   | TT       |
| PDXDC1   | rs4985155  | AG       |
| TMEM39   | rs16829840 | CC       |
| PDXDC1   | rs1741     | GC       |
| ELOVL2   | rs2236212  | CC       |
| FADS1    | rs174555   | TC       |
|          |            |          |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:



# Beta-2 microglubulin plasma levels

Beta-2-microglobulin (B2M) is a protein found on the surface of many cells, including those that make up the immune system and can therefore be considered a marker of immune defense system activity. If found in high levels, it may indicate an overactive defense system or the presence of disease, although it is not diagnostic of a specific illness. On the other hand, low levels of this protein may indicate a compromised immune system or the presence of kidney or cardiovascular disease. Genetics plays a vital role in regulating this protein, and, in particular, variants in the TRIM31 gene, among others, can influence circulating beta -2-microglobulin levels.

## Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| TRIM31   | rs2023472  | GG       |
| HLA B    | rs2523608  | AG       |
| MICA AS1 | rs16899524 | CC       |
| SH2B3    | rs3184504  | CC       |

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:



# Glycated hemoglobin levels

Glycosylated hemoglobin, or HbA1c, measures the average blood sugar level over the past two to three months. It is a crucial indicator as a measure of glycaemic control and also as a diagnostic criterion for diabetes, as it helps to determine how well the disease is being controlled. A high level may indicate inadequate control and an increased risk of diabetes complications, while a good level suggests that diabetes is either not present or under control. Scientific studies have confirmed that variants in the FADS2 gene, among others, can influence glycosylated hemoglobin levels, thus ensuring the influence of genetics on this marker.

# Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| SMG5    | rs6684514  | GG       |
| LOC1079 | rs9399137  | TC       |
| FADS2   | rs174570   | CC       |
| PIEZO1  | rs9933309  | CC       |
| МҮО9В   | rs11667918 | CC       |
| ANK1    | rs4737009  | GG       |
| FN3KRP  | rs1046875  | GG       |
| ABCB11  | rs3755157  | CC       |
| CDKAL1  | rs7772603  | TT       |
| GCK     | rs1799884  | CC       |
| SLC30A8 | rs13266634 | CC       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:



# Serum total protein level

We could say that serum is the liquid part of blood that remains after blood cells (such as red blood cells and white blood cells) and platelets have been removed, and contains elements such as water, salts, sugars, proteins, and other compounds necessary for the functioning of your body. The proteins present in blood serum play a crucial role in modulating and monitoring multiple biological processes in our body and are not only a reflection of our general health and nutritional status but can also be affected by diseases, infections, and nutritional imbalances, such as malnutrition, cancer, and cardiovascular, renal and inflammatory diseases. At the genetic level, variants in the RPS11 gene, among others, have been confirmed to have the ability to influence predisposition to abnormal serum protein levels.

## Your genetic map

| Gene      | SNP       | Genotype |
|-----------|-----------|----------|
| TNFRSF1   | rs4561508 | CC       |
| intergeni | rs204999  | AG       |
| TNFRSF1   | rs4561508 | CC       |
| GCKR      | rs1260326 | TC       |
| ARID5B    | rs2675609 | CC       |
| RPS11     | rs2280401 | AA       |
| TNFRSF1   | rs4561508 | CC       |
| intergeni | rs204999  | AG       |
| ELL2      | rs3777200 | CC       |
| GCKR      | rs1260326 | TC       |
| RPS11     | rs2280401 | AA       |

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, you are more prone than the average person to suffering abnormal

#### More information:



#### **GGT** levels

GGT (Gamma Glutamyl Transferase) is a type of liver enzyme essential in the metabolic process of amino acids, which stands out for its ability to diagnose potential liver disorders. Low GGT, in many cases, is not due to a disease but simply to an unbalanced diet with specific nutrient and vitamin deficiencies. However, elevated blood levels may indicate liver disease or damage to the bile ducts, the tubes through which bile enters and exits the liver. Environmental factors, such as alcohol intake, certain medications, and some diseases, can directly affect these levels, but we also find a determining influence in our genetic inheritance. Specifically, specific gene variants, such as PNPLA3, can influence GGT levels in the blood.

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/22001757

# Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| PNPLA3   | rs738409   | CC       |
| RNU6     | rs6984305  | TT       |
| LOC1053  | rs10819937 | GG       |
| ABO      | rs579459   | TC       |
| JMJD1C   | rs7923609  | GG       |
| FADS2    | rs174601   | TC       |
| ST3GAL4  | rs2236653  | TT       |
| ASGR1    | rs314253   | TT       |
| ABHD12   | rs7267979  | GG       |
| LOC1019  | rs1497406  | AG       |
| CEPT1    | rs1335645  | AA       |
| EFHD1    | rs2140773  | AA       |
| SLC2A2   | rs10513686 | GG       |
| HPRT1P2  | rs6888304  | AA       |
| MLXIPL   | rs17145750 | TC       |
| DLG5     | rs754466   | AA       |
| EXOC3L4  | rs944002   | AG       |
| RORA     | rs339969   | AC       |
| CD276    | rs8038465  | CC       |
| LOC1027  | rs4581712  | AA       |
| SOX9 AS1 | rs9913711  | CC       |
| FUT2     | rs516246   | TC       |
| MICAL3   | rs1076540  | TC       |
| GGT1     | rs2073398  | CC       |



# Glycerophospholipid levels

Phosphoglycerides or glycerophospholipids are lipid molecules of the phospholipid group that form the cell membrane and, therefore, play a vital role in the structure and function of membranes, especially in cell signaling and recognisability. An adequate proportion of these lipids is essential for the proper functioning and structure of cells, and changes in their levels can affect membrane fluidity and functionality. Genetics is an influential factor, and scientifically validated studies have identified variants in the MYRF gene, among others, as a determining factor in regulating glycerophospholipids.

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/26068415

# Your genetic map

| Gene   | SNP       | Genotype |
|--------|-----------|----------|
| PKD2L1 | rs603424  | GG       |
| MYRF   | rs174536  | AA       |
| MYRF   | rs174537  | GG       |
| TMEM25 | rs102275  | TC       |
| FADS1  | rs174546  | TC       |
| FADS1  | rs174546  | TC       |
| FADS1  | rs174547  | TT       |
| FADS1  | rs174550  | TC       |
| FADS1  | rs174555  | TC       |
| FADS2  | rs968567  | CC       |
| FADS2  | rs1535    | AG       |
| FADS2  | rs1535    | AG       |
| FADS2  | rs174576  | CC       |
| FADS2  | rs174578  | TA       |
| FADS2  | rs174578  | TA       |
| SYNE2  | rs7157785 | GG       |
| GPHN   | rs1077989 | AC       |
| GPHN   | rs1077989 | AC       |



#### Serum albumin level

Albumin is a protein produced by the liver that stands out as the most prevalent protein in blood serum. It is vital for regulating osmotic balance, the relationship between the fluids inside the cell (intracellular) and its external environment (extracellular), and for transporting various molecules. A decreased albumin level can be a warning sign of possible kidney or liver disease; low albumin levels usually indicate dehydration. In any case, either too high or too low, abnormal levels are not necessarily associated with a health problem. It has been shown that certain medications can have an impact on albumin levels, and genetics is also an important influencing factor. Specifically, variants in genes, such as FRMD5, have been identified that influence serum albumin concentration.

## Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| MIR22HG | rs11078597 | TT       |
| ACTBP9  | rs694419   | CC       |
| RPS11   | rs2280401  | AA       |
| FRMD5   | rs16948098 | GG       |
| TNFRSF1 | rs4561508  | CC       |
| FKBPL   | rs204999   | AG       |
| LOC1079 | rs2675609  | CC       |
| HPN AS1 | rs11671010 | TC       |
| CHRNA3  | rs12914385 | TC       |
| ELL2    | rs3777200  | CC       |

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:



# Phospholipid levels (plasma)

Phospholipids are a source of essential fatty acids and act as critical components in the formation and function of cell membranes, making them vital to ensure optimal cellular health, as well as functioning as a biological vehicle for the absorption of fat-soluble vitamins, such as A, D, E, and K. Stored lipids represent the body's energy pantry and are a source of energy during exercise. Alterations in the balance of these lipids can be a precursor to metabolic dysfunction and cardiovascular problems, among other pathologies. Diet and the individual's metabolism are determining factors in the concentration of these lipids, but scientific studies have shown the influence of genetics in this process. In particular, it has been highlighted that variants in genes such as LCT influence the predisposition to have abnormal levels of phospholipids.

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/21829377

## Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| TMEM25  | rs102275   | TC       |
| MYRF    | rs174536   | AA       |
| RPLP0P2 | rs1692120  | AG       |
| FADS1   | rs174547   | TT       |
| FADS2   | rs1535     | AG       |
| FADS2   | rs174448   | AG       |
| FEN1    | rs4246215  | GG       |
| LCT     | rs16832011 | AA       |
| TMEM25  | rs174538   | AG       |
| MYRF    | rs174535   | TC       |
| FADS1   | rs174550   | TC       |
| FADS2   | rs174574   | AC       |
| ELOVL2  | rs3798713  | GC       |
| BEST1   | rs1109748  | AC       |
| LOC1019 | rs1514178  | TT       |
| ELOVL2  | rs3734398  | CC       |
| SYCP2L  | rs4713103  | TT       |
| RAB3IL1 | rs2521572  | GG       |
| DAGLA   | rs198426   | TT       |
| GCKR    | rs780094   | TC       |
| LOC1053 | rs9586179  | TT       |
| RPS2P37 | rs4963452  | TT       |
| STIM2   | rs6844153  | TC       |
| ELOVL2  | rs2236212  | CC       |
| ELOVL2  | rs4711171  | CC       |



#### **Aortic root size**

Echocardiographic measures of Left Ventricular (LV) structure and function are heritable phenotypes of cardiovascular disease.

# Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| SLC35F1 | rs89107    | GG       |
| TMEM23  | rs17132261 | CC       |
| SMG6    | rs10852932 | TG       |
| PRDM6   | rs17470137 | AG       |
| HMGA2   | rs4026608  | TT       |
| LINC023 | rs10770612 | AA       |
| LOXL1   | rs893817   | AG       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

### More information:



#### **Heart rate**

An elevated resting heart rate is associated with a greater risk of cardiovascular disease.

# Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| TFPI     | rs4140885  | GG       |
| LOC1053  | rs180242   | AA       |
| RNU3P3   | rs17796783 | TC       |
| SYT10    | rs7980799  | CC       |
| LOC1053  | rs17287293 | AG       |
| CD46     | rs11118555 | TT       |
| МҮН6     | rs365990   | AA       |
| LOC1053  | rs1015451  | TT       |
| ACHE     | rs13245899 | AA       |
| FADS1    | rs174549   | GG       |
| SLC35F1  | rs11153730 | TC       |
| KIAA1755 | rs6127471  | TC       |
| CCDC141  | rs17362588 | GG       |
| GNB4     | rs7612445  | GG       |
| CHRM2    | rs2350782  | TT       |
| NKX2 5   | rs6882776  | GG       |
| LOC1053  | rs13030174 | AC       |
| FNDC3B   | rs9647379  | CG       |
| RFX4     | rs2067615  | AT       |
| CPNE8    | rs826838   | TT       |
| RBFOX1   | rs11645781 | GG       |
| SLC10A7  | rs10213084 | GG       |
| RNU4     | rs11154027 | TC       |
| LOC1079  | rs11578508 | AA       |
| HMGN2P   | rs17083533 | GG       |
| LOC1019  | rs7722600  | AA       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, you are more prone than the average person to having normal levels.

### More information:



#### Bilirubin levels

Bilirubin is a yellowish pigment produced during the breakdown of red blood cells, passes through the liver, and is eventually excreted from the body. Lower than average levels are not a concern, but abnormally high levels may indicate that the liver is not eliminating bilirubin properly, which may indicate liver disease or damage. It is, therefore, considered an essential indicator for detecting certain conditions. While liver disease is a common factor influencing these levels, genetics also plays a role. Variations in specific genes, such as UGT1A10, play a role in determining bilirubin levels.

# Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| UGT1A10  | rs6742078  | GG       |
| HIST1H1T | rs12206204 | CC       |
| ARHGEF7  | rs4773330  | GG       |
| SLCO1B1  | rs4149056  | TT       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:



# Thyroid hormone levels

Thyroid hormones, produced by the thyroid gland, play a crucial role in regulating metabolism and growth. Abnormal levels of thyroid hormones affect about 10% of people in their lifetime. Low levels of thyroid hormones lead to hypothyroidism, the consequences of which include tiredness, intolerance to colds, apathy and indifference, depression, reduced memory and mental concentration, dry skin, dry and brittle hair, brittle nails, pale skin, weight gain, persistent constipation, and excessive sleepiness. Conversely, high levels (hyperthyroidism) can cause weight loss or irregular or rapid heartbeat. Variants in the PDE10A gene, among others, have been identified as influencing thyroid hormone levels, supporting the importance of genetics in thyroid hormone levels.

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, you are more prone than the average person to suffering abnormal levels.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/23408906

## Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| PDE8B    | rs6885099  | AG       |
| PDE10A   | rs753760   | GC       |
| LOC1053  | rs10799824 | GG       |
| LOC1053  | rs3813582  | TT       |
| LOC1079  | rs9472138  | CC       |
| LINC0151 | rs11755845 | CC       |
| LOC1079  | rs10032216 | TT       |
| IGFBP    | rs13015993 | AA       |
| SOX9     | rs9915657  | TT       |
| NFIA     | rs334699   | GG       |
| FGF7     | rs10519227 | TT       |
| PRDM11   | rs17723470 | TC       |
| DET1     | rs17776563 | GG       |
| INSR     | rs4804416  | TG       |
|          | rs657152   | AC       |
| ITPK1    | rs11624776 | AA       |
| NRG1     | rs7825175  | GG       |
| LINC006  | rs1537424  | TC       |
| SASH1    | rs9497965  | CC       |
| GLIS3    | rs1571583  | GG       |
| DIO1     | rs2235544  | AC       |
| LHX3     | rs7860634  | AA       |
| PTCSC2   | rs7045138  | TC       |
| LOC1053  | rs11726248 | GG       |
| LPCAT2   | rs6499766  | AA       |
| LOC1005  | rs7240777  | GG       |



# **Eosinophil levels**

Eosinophils, a variety of white blood cells, are essential for responding to allergies and infections. These cells play a crucial role in the immune response, especially when dealing with parasites and allergic reactions. Diagnostically, high eosinophils may indicate a parasitic infection or an ongoing allergic reaction. On the other hand, low levels may indicate a weakened immune system, stress, or the presence of medications. such as beta-blockers corticosteroids. Genetics has also been shown to be an influential factor, and specifically, variants in the IL1RL1 gene, among others, can correlate with the number of eosinophils in the blood. This relationship gives physicians a clearer picture of an individual's immune health and tailor treatments accordingly.

### Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| IL1RL1   | rs1420101  | TC       |
| LOC1027  | rs12619285 | AG       |
| TMED10P  | rs4857855  | CC       |
| SH2B3    | rs3184504  | CC       |
| IRF1 IL5 | rs4143832  | GG       |
| WDR36    | rs2416257  | TC       |
| TNXB     | rs2269426  | AA       |

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:



# **Neutrophil levels**

Neutrophils are granulocyte-type leukocytes (white blood cells), also called polymorphonuclears. They are the most common type of white blood cell and play a crucial role in the body's defense against infection. They respond rapidly to the presence of foreign bodies and are essential in the initial phase of the immune response. Low levels of neutrophils (neutropenia) make it difficult for the body to fight infection, making the person more likely to become ill. Increased levels result in a condition known as neutrophilic leukocytosis, which is a normal immune response to infection, injury, inflammation, or certain medications, among other causes. Variations in the CDK6 gene, among others, have been shown to correlate with neutrophil levels in the blood, confirming that genetics is an important influencing factor.

### Your genetic map

| Gene      | SNP       | Genotype |
|-----------|-----------|----------|
| CDK6      | rs445     | CC       |
| Intergeni | rs8078723 | TC       |
| Intergeni | rs8078723 | TC       |
| PSMD3     | rs4794822 | CC       |
| PSMD3     | rs4794822 | CC       |
| AK12388   | rs6936204 | TC       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:



#### Interleukin 6 and Inflammation

Interleukin 6 (IL-6) is a proinflammatory cytokine contributing to host defense against infection and tissue injury. However, the exaggerated and excessive synthesis of IL-6 while fighting environmental stress leads to a severe and acute systemic inflammatory response known as a "cytokine storm" since high levels of IL-6 can activate the pathway of IL-6. Coagulation and vascular endothelial cells inhibit myocardial function. As previously shown in the literature, increased circulating levels of proinflammatory cytokines are associated with lung inflammation and extensive lung involvement in SARS patients. Genetics also plays a key role, as the IL6R gene has been linked to genetic susceptibility to such inflammation.

### Your genetic map

| Gene    | SNP       | Genotype |
|---------|-----------|----------|
| IL6 AS1 | rs1800796 | GC       |
| IL6R    | rs4537545 | CC       |

#### **Multivariate analysis**

# What do your genetics tell us?



Depending on your genotype, you are predisposed to maintaining standard levels of interleukin 6. Other genetic and clinical factors may play a role.

#### More information:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2668154/pdf/nihms45547.pdf



#### **Platelet levels**

Platelets, also known as thrombocytes, are fragments of blood cells produced by the bone marrow that are essential for blood clotting. They contribute to the repair of damaged blood vessels and prevent excessive bleeding. If your blood is low in platelets, it is called thrombocytopenia, and you may be at risk of moderate to severe bleeding. Abnormally high levels of platelets increase the risk of forming blood clots (thrombi) that can block blood flow in the body. If a thrombus moves from the site where it started, it is called an embolism. The thrombus or embolism blocks the supply of oxygen and blood flow to surrounding tissues and can cause significant damage. At the genetic level, studies show that variants in the MFN2 gene, among others, have been identified as influencing blood platelet levels.

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, you are more prone than the average person to having normal levels.

#### More information:

www.ncbi.nlm.nih.gov/pubmed/22139419

## Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| MFN2    | rs2336384  | TT       |
| DNM3    | rs10914144 | TC       |
| TMCC2   | rs1668871  | TT       |
| GCSAML  | rs7550918  | TT       |
| TRIM58  | rs3811444  | TT       |
| EHD3    | rs625132   | AG       |
| THADA   | rs17030845 | TT       |
| LOC3398 | rs7641175  | AA       |
| ARHGEF3 | rs1354034  | TC       |
| PDIA5   | rs3792366  | AG       |
| KLHL8   | rs7694379  | GG       |
| F2R     | rs17568628 | TT       |
| MEF2C   | rs700585   | TC       |
| IRF1    | rs2070729  | AC       |
| CARMIL1 | rs441460   | AA       |
| HLA B   | rs3819299  | TT       |
| HLA DOA | rs399604   | TT       |
| BAK1    | rs210134   | GG       |
| LOC1079 | rs9399137  | TC       |
| СТВ     | rs342275   | TC       |
| HYAL4   | rs4731120  | AA       |
| PLEC    | rs6995402  | TC       |
| AK3     | rs409801   | TC       |
| RCL1    | rs13300663 | GG       |
| CDKN2A  | rs3731211  | TA       |
| PSMD13  | rs505404   | TT       |
| FEN1    | rs4246215  | GG       |
| CBL     | rs4938642  | GG       |
| LOC1053 | rs7342306  | GG       |
| BAZ2A   | rs941207   | CC       |
| SH2B3   | rs3184504  | CC       |
|         |            |          |



#### White blood cell count

White blood cells are a type of blood cell that is produced in the bone marrow and found in blood and lymphatic tissues. White blood cells are part of the body's immune system. These help the body fight infections and other diseases. The types of white blood cells are granulocytes (neutrophils, eosinophils, and basophils), monocytes, and lymphocytes (T cells and B cells).

White blood cell count is a common clinical measurement of whole blood count tests, and varies widely among healthy individuals.

# Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| LINC0156 | rs4328821  | AA       |
| EPS15L1  | rs10411936 | AG       |
| LOC1019  | rs1449263  | TC       |
| LINC0156 | rs9880192  | GC       |
| CCDC26   | rs10098310 | AG       |
| LOC1053  | rs10980800 | TT       |
| PSMD3    | rs8078723  | TC       |
| HCG22    | rs2517510  | TG       |
| PSMD3    | rs4794822  | CC       |

#### **GWAS** analysis

What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:



# Monocyte levels

Monocytes belong to the agranulocytes, a type of white blood cell or leukocyte. They are part of the immune system, responsible for fighting particular infections, and are also involved in the inflammatory response. Having altered levels of monocytes may mean that the immune system is weakened or fighting a disease. In both cases, this is usually related to infectious processes, such as a virulent flu, a blood infection, viral infections, infectious mononucleosis, mumps, measles, or parasitic infections. Occasionally, specific medical treatments can also influence monocyte levels. In addition to all these diseases, genetics can play a role, and variants in the ITGA4 gene, among others, have been shown to influence blood monocyte levels.

## Your genetic map

| Gene  | SNP       | Genotype |
|-------|-----------|----------|
| ITGA4 | rs2124440 | AG       |
| RPN1  | rs2712381 | AC       |
| ACKR2 | rs2228467 | TT       |
| PTGR1 | rs2273788 | CC       |
| IRF8  | rs424971  | TT       |

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:



#### Uric acid levels

Purines are essential organic compounds that our body uses to build DNA and are obtained from certain foods and drinks. When we have too many of them, or the body cannot handle them properly, they can turn into uric acid, a waste product produced by the breakdown of purines and usually excreted by the kidneys and urine. It sometimes builds up, which can form needle-like crystals in the joints, called gout, a painful form of arthritis. On the flip side, having low uric acid levels in the blood is rare and usually does not cause health problems. At the genetic level, variants in the GCKR gene, among others, correlate with a predisposition to abnormal uric acid levels.

## Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| PDZK1    | rs12129861 | AG       |
| GCKR     | rs780094   | TC       |
| SLC2A9   | rs734553   | TT       |
| ABCG2    | rs2231142  | GG       |
| CARMIL1  | rs742132   | AG       |
| SLC17A1  | rs1183201  | AT       |
| SLC16A9  | rs12356193 | AA       |
| SLC22A11 | rs17300741 | AA       |
| SLC22A1  | rs505802   | TT       |

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

#### More information:



# Menopause (age at onset)

Menopause is the natural stage in a woman's life when menstruation ceases and fertility ends. This stage of life is associated with one of the significant hormonal changes in women, characterized by a decrease in the secretion of estrogen, progesterone, and testosterone to a lesser extent. It influences a woman's well-being and can be associated with cardiovascular disease, breast cancer, osteoarthritis, and osteoporosis. Some women experience menopause at an earlier age than expected, known as premature menopause, leading to earlier infertility and the possibility of the diseases above. Genetics is an influencing factor, as variants in the EXO1 gene, among others, have been found to correlate with the likelihood of early onset of menopause.

## Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| EXO1    | rs1635501  | TC       |
| FNDC4   | rs2303369  | TC       |
| TLK1    | rs10183486 | TC       |
| UIMC1   | rs365132   | TG       |
| SYCP2L  | rs2153157  | AG       |
| ASH2L   | rs2517388  | TT       |
| LOC1027 | rs12294104 | CC       |
| PRIM1   | rs2277339  | TT       |
| TDRD3   | rs4886238  | GG       |
| POLG    | rs2307449  | TG       |
| GSPT1   | rs10852344 | TT       |
| TMEM150 | rs11668344 | AA       |
| NLRP11  | rs12461110 | GG       |
| MCM8    | rs16991615 | GG       |

#### Monovariant analysis

What do your genetics tell us?



According to this study, you have a propensity similar to that of most of the population.

#### More information:



# **Bone mineral density**

Bone Mineral Density (BMD) is the most widely used predictor of fracture risk.

# **GWAS** analysis

What do your genetics tell us?



According to this study, your propensity is to have normal levels, in line with the average person.

### More information:

www.ncbi.nlm.nih.gov/pubmed/22504420

# Your genetic map

| Gene      | SNP        | Genotype |
|-----------|------------|----------|
| FABP3P2   | rs9533090  | CC       |
| Intergeni | rs7932354  | TC       |
| AXIN1     | rs9921222  | TC       |
| TMEM26    | rs1053051  | TC       |
| RPS3AP2   | rs13336428 | AG       |
| HROB      | rs227584   | AC       |
| FAM210A   | rs4796995  | AG       |
| CCDC170   | rs4869742  | TC       |
| CPED1     | rs13245690 | AA       |
| CBR1 AS1  | rs4817775  | CC       |
| CPN1      | rs7084921  | CC       |
| LOC1053   | rs430727   | TC       |
| LOC1079   | rs1564981  | AG       |
| DCDC1     | rs163879   | TC       |
| RHEBL1    | rs12821008 | CC       |
| DNM3      | rs479336   | GG       |
| LOC1079   | rs2887571  | AA       |
| FOXL1     | rs10048146 | AA       |
| FUBP3     | rs7851693  | CC       |
| CSRNP3    | rs1346004  | GG       |
| GPATCH1   | rs10416218 | TC       |
| Intergeni | rs736825   | CG       |
| IDUA      | rs3755955  | AG       |
| LOC1053   | rs1878526  | GG       |
| JAG1      | rs3790160  | CC       |
| KCNMA1    | rs7071206  | TT       |
| USF3      | rs1026364  | TG       |
| LOC1053   | rs7953528  | TT       |
| LEKR1     | rs344081   | TT       |
| RPL37AP   | rs10835187 | TC       |
| LRP5      | rs3736228  | CC       |
|           |            |          |



## Lung volume

Lung volume is an essential factor influencing our respiratory function. It is measured by forced vital capacity (FVC), which indicates the maximum volume of air exhaled at maximum possible effort, starting from a maximal inspiration. It is expressed as volume (in ml). Low levels of this indicator may indicate lung obstruction. The analysis tool used is spirometry, which is used to diagnose and monitor respiratory diseases such as asthma and COPD (chronic obstructive pulmonary disease), among Environmental factors such as smoking and pollution exposure can influence the results, but genetics also plays a significant role. It has been found that specific variants in genes, such as BMP6, can affect a person's forced vital capacity.

### Your genetic map

| Gene     | SNP       | Genotype |
|----------|-----------|----------|
| EFEMP1   | rs1430193 | TT       |
| ВМР6     | rs6923462 | CC       |
| MIR129 2 | rs4237643 | TT       |
| PRDM11   | rs2863171 | AA       |
| WWOX     | rs1079572 | AG       |

#### **GWAS** analysis

# What do your genetics tell us?



According to this study, you are more prone than the average person to having normal levels.

#### More information:



# Longevity

Longevity is described as a person's lifespan and is a multifactorial phenomenon involving environmental factors, mainly diet, sport, stress, lifestyle, and genetics. Research on the genetic component in human longevity has focused on stress response signaling pathways, DNA repair, and nutrient storage and utilization. These processes are mediated by a wide variety of genes, some of which have been identified as possible determinants of longevity. Therefore, although longevity is a complex and multifactorial phenomenon, evidence indicates that genetics plays a vital role in its determination, and a particular variant of the TAS2R16 gene is related to the natural propensity for longevity in women.

## Your genetic map

| Gene    | SNP      | Genotype |
|---------|----------|----------|
| TAS2R16 | rs978739 | TT       |

#### Monovariant analysis

What do your genetics tell us?



According to your genotype, you have a propensity to be a long-lived person. Other genetic and clinical factors may play a role

#### More information:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3487725/pdf/pone.0045232.pdf



#### **Warfarin**

Warfarin is an anticoagulant drug normally used to prevent blood clot formation, as well as migration. Although originally marketed as a pesticide (d-Con, Rodex, among others), Warfarin has since become the most frequently prescribed oral anticoagulant in North America. Warfarin has several properties that should be noted when used medicinally, including its ability to cross the placental barrier during pregnancy, which can result in fetal bleeding, spontaneous abortion, preterm birth, stillbirth, and neonatal death. Additional adverse effects, such as necrosis, purple toe syndrome, osteoporosis, valve and artery calcification, and drug interactions, have also been documented with warfarin use. Warfarin does not actually affect blood viscosity. Rather, it inhibits Vitamin-k dependent synthesis of biologically active forms of various clotting factors, in addition to several regulatory factors.

## Your genetic map

 Gene
 SNP
 Genotype

 VKORC1
 rs9923231
 CC

#### Monovariant analysis

What do your genetics tell us?



Patients with the CC genotype may require an increased dose of warfarin as compared to patients with the TC or TT genotype. Other genetic and clinical factors may also influence a patient's warfarin dose requirement.

#### More information:

https://www.ncbi.nlm.nih.gov/gtr/conditions/CN078029



# Meperidine

A narcotic analgesic that can be used for the relief of most types of moderate to severe pain, including postoperative pain and the pain of labour. Prolonged use may lead to dependence on the morphine type; withdrawal symptoms appear more rapidly than with morphine and are of shorter duration.

# Your genetic map

| Gene  | SNP       | Genotype |
|-------|-----------|----------|
| CREB1 | rs2952768 | TC       |

#### Monovariant analysis

What do your genetics tell us?



Patients with the TC genotype may have decreased opioid analgesic requirements after surgery. Other genetic and clinical factors may also have an effect.

#### More information:



#### **Pentazocine**

The first mixed agonist-antagonist analgesic to be marketed. It is an agonist at the kappa and sigma opioid receptors, and has a weak antagonist action at the mu receptor

# Your genetic map

| Gene  | SNP       | Genotype |
|-------|-----------|----------|
| CREB1 | rs2952768 | TC       |

#### Monovariant analysis

What do your genetics tell us?



Patients with the TC genotype may have decreased opioid analgesic requirements after surgery as compared to patients with the CC genotype. Other genetic and clinical factors may influence a patient's opioid dose requirement.

### More information:



# **Morphine**

The principal alkaloid in opium and the prototype opiate analgesic and narcotic. Morphine has widespread effects in the central nervous system and on smooth muscle. In January, 2017, morphine was approved for the treatment of chronic pain.

# Your genetic map

| Gene  | SNP       | Genotype |
|-------|-----------|----------|
| CREB1 | rs2952768 | TC       |

#### Monovariant analysis

What do your genetics tell us?



Patients with the TC genotype may have decreased opioid analgesic requirements after surgery as compared to patients with the CC genotype. Other genetic and clinical factors may affect a patient's opioid dose requirement.

#### More information:



# **Aspirin**

Aspirin, also known as acetylsalicylic acid (ASA), is a medication used to treat pain, fever, and inflammation. Specific inflammatory conditions for which aspirin is used include Kawasaki disease, pericarditis, and rheumatic fever. Aspirin is a non-steroidal anti-inflammatory drug (NSAID) and works similar to other NSAIDs, but also suppresses the normal functioning of platelets.

# Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| PTGS1 | rs10306114 | AA       |

#### Monovariant analysis

What do your genetics tell us?



Patients with the AA genotype who are treated with aspirin may be at a decreased, though not absent, risk for non-response to aspirin as compared to patients with the AG or GG genotype. Other genetic and clinical factors may also influence a patient's response to aspirin.

#### More information:



#### **Simvastatin**

Simvastatin is a lipid-lowering agent that is derived synthetically from the fermentation of Aspergillus terreus. It is a potent, competitive inhibitor of 3-hydroxy-3-methylglutaryl coenzyme A reductase (hydroxymethylglutaryl COA reductases), which is the rate-limiting enzyme in cholesterol biosynthesis. It may also interfere with steroid hormone production. Due to the induction of hepatic LDL receptors, it increases the breakdown of LDL cholesterol.

# Your genetic map

| Gene    | SNP       | Genotype |
|---------|-----------|----------|
| SLCO1B1 | rs4149056 | TT       |

#### Monovariant analysis

What do your genetics tell us?



Patients with the TT genotype may be at a lower risk of simvastatin-related myopathy as compared to patients with the CT or CC genotype. Other genetic and clinical factors may also affect a patient's risk for toxicity.

#### More information:



# **Bupropion**

A unicyclic, aminoketone antidepressant. The mechanism of its therapeutic actions is not well understood, but it does appear to block dopamine uptake. Hydrochloride is available as an aid to smoking cessation treatments.

# Your genetic map

| Gene  | SNP       | Genotype |
|-------|-----------|----------|
| ANKK1 | rs1800497 | AA       |

#### Monovariant analysis

# What do your genetics tell us?



Patients with the AA genotype who are treated with bupropion may be less likely to quit smoking as compared to patients with the GG genotype, although this has been contradicted in one study. Other genetic and clinical factors may also influence a patient's capacity to quit smoking.

#### More information:



#### **Pravastatin**

Pravastatin is a cholesterol-lowering agent that belongs to a class of medications known as statins. It was derived from microbial transformation of mevastatin, the first statin discovered. It is a ring-opened dihydroxyacid with a 6'-hydroxyl group that does not require in vivo activation. Pravastatin is one of the lower potency statins. However, its increased hydrophilicity is thought to confer advantages, such as minimal penetration through lipophilic membranes of peripheral cells, increased selectivity for hepatic tissues, and a reduction in side effects compared with lovastatin and simvastatin.

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| HMGCR | rs17244841 | AA       |

#### **Multivariate analysis**

# What do your genetics tell us?



Patients with the AA genotype who are treated with statins may be more likely to respond as compared to patients with the AT or TT genotype. Other genetic and clinical factors may also influence a patient's response when treated with statins.

#### More information:



#### **Methotrexate**

An antineoplastic antimetabolite with immunosuppressive properties. It is an inhibitor of tetrahydrofolate dehydrogenase and prevents the formation of tetrahydrofolate, necessary for synthesis of thymidylate, an essential component of DNA.

# Your genetic map

| Gene  | SNP       | Genotype |
|-------|-----------|----------|
| MTHFR | rs1801133 | AG       |

#### Monovariant analysis

# What do your genetics tell us?



Patients with AG genotype and leucemia or lymphoma who are treated with methotrexate: 1) may have a poorer response 2) may be at an increased risk of toxicity 3) may require a lower dose of methotrexate, and 4) may be at a greater risk of folate deficiency as compared to patients with GG genotype. When comparing with AA genotype, the opposite is true. This association has been contradicted in other studies. Other factors may also have an effect.

#### More information:



# Fluorouracil, capecitabine, pyrimidine analogues, tegafur and Neoplasms

Fluorouracil (5-FU), sold under the brand name Adrucil, among others, is a medication used to treat cancer. By injection into a vein, it is used for colon cancer, esophageal cancer, stomach cancer, pancreatic cancer, breast cancer, and cervical cancer. As a cream it is used for actinic keratosis and basal cell carcinoma. It is a potent antimetabolite used in the treatment of cancer. It is a drug that blocks the methylation reaction of deoxyuridic acid, converting it into thymidylic acid by inhibiting an enzyme that is important for the synthesis of thymidine, which, being part of the DNA molecule, stops its formation. The drug is specific to the S phase of the cell phase cycle. 5-Fluorouracil is involved in the synthesis of DNA and inhibits, to a small degree, the formation of RNA. The two actions combine to promote a metabolic imbalance that results in cell death. The inhibitory activity of the drug, by its analogy with uracil, has an effect on the rapid growth of the neoplastic cells, which, preferentially, take advantage of the uracil molecule for nucleic acid biosynthesis.

#### Monovariant analysis

# What do your genetics tell us?



TT-genotype patients treated with fluoropyrimidine-based chemotherapy may exhibit 1) increased clearance of the drug and 2) decreased, but not absent, risk and reduced severity of drug toxicity as compared to patients with the AT genotype. The combination (FOLFOX, FOLFIRI or FEC) and delivery of the drug may influence risk for toxicity. Other genetic and clinical factors may also have an influence.

#### More information:

https://www.ncbi.nlm.nih.gov/pubmed/17700593

## Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| DPYD | rs67376798 | TT       |



#### **Vincristine**

Vincristine is an anti-tumour vinca alkaloid isolated from Vinca Rosea. It is marketed under several brand names, many of which have different formulations, such as Marqibo (liposomal injection) and Vincasar. Vincristine is indicated for the treatment of acute leucemia, malignant lymphoma, Hodgkin's disease, acute erythraemia, and acute panmyelosis. Vincristine sulfate is often chosen as part of polychemotherapy because of its lack of significant bonemarrow suppression (at recommended doses) and unique clinical toxicity (neuropathy).

## Your genetic map

| Gene  | SNP      | Genotype |
|-------|----------|----------|
| CEP72 | rs924607 | TC       |

#### Monovariant analysis

What do your genetics tell us?



Patients with the TC genotype may have decreased, but not absent, risk of peripheral nervous system diseases when treated with vincristine as compared to patients with the TT genotype. Other genetic and clinical factors may also affect a patient's response to vincristine.

#### More information:



#### **Tacrolimus**

FK-506 **Tacrolimus** (also or Fujimycin) immunosuppressive drug mainly used after an organ transplant, to reduce the activity of the patient's immune system and, thereby, the risk of organ rejection. It is also used in a topical preparation for the treatment of severe atopic dermatitis, severe refractory uveitis, after bone marrow transplants; and the skin condition vitiligo. It was discovered in 1984 from the fermentation broth of a Japanese soil sample containing the bacteria Streptomyces tsukubaensis. Tacrolimus is chemically known as a macrolide. It reduces peptidyl-prolyl isomerase activity by binding to the immunophilin FKBP-12 (FK506 binding protein), creating a new complex. This FKBP12-FK506 complex interacts with and inhibits calcineurin, thus inhibiting both T-lymphocyte signal transduction and IL-2 transcription.

## Your genetic map

| Gene   | SNP       | Genotype |
|--------|-----------|----------|
| CYP3A4 | rs2740574 | TT       |

#### Monovariant analysis

# What do your genetics tell us?



Transplant recipients with the TT (CYP3A4) genotype may require a decreased dose of tacrolimus as compared to patients with the TC or CC genotype. Other genetic and clinical factors, such as CYP3A5 (rs776746), may also influence a patient's dose requirements.

### More information:



# Peginterferon Alpha-2b

Peginterferon alfa-2b is a form of recombinant interferon used as part of combination therapy to treat chronic Hepatitis C, an infectious liver disease caused by infection with the Hepatitis C Virus (HCV). HCV is a single-stranded RNA virus that is categorised into nine distinct genotypes, with genotype 1 being the most common in the United States, and affecting 72% of all chronic HCV patients. Treatment options for chronic Hepatitis C have advanced significantly since 2011, with the development of Direct Acting Antivirals (DAAs) resulting in less use of Peginterferon alfa-2b. Peginterferon alfa-2b is derived from the alfa-2b moiety of recombinant human interferon, and acts by binding to human type-1 interferon receptors. The activation and dimerization of this receptor induces the body's innate antiviral response by activating the Janus kinase/signal transducer and activator of transcription (JAK/STAT) pathway.

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| IFNL4 | rs12979860 | TC       |

#### Monovariant analysis

# What do your genetics tell us?



Patients with the TC genotype and Hepatitis C genotype 1 may exhibit a decreased response (sustained virological response, SVR) when administered peg interferon alpha (2a, 2b) and ribavirin as compared to patients with the CC genotype. Patients with the TC genotype may also have lower spontaneous clearance in acute HCV infections than patients with the CC genotype. Other genetic and clinical factors may also affect a patient's response to peg interferon and ribavirin.

#### More information:



## Pharmacogenetics

#### Ribavirin

Producing broad-spectrum activity against several RNA and DNA viruses, Ribavirin is a synthetic guanosine nucleoside and antiviral agent that interferes with the synthesis of viral mRNA. It is primarily indicated for use in treating hepatitis C and viral hemorrhagic fevers. HCV is a single-stranded RNA virus that is categorised into nine distinct genotypes, with genotype 1 being the most common in the United States, and affecting 72% of all chronic HCV patients. It is reported that ribavirin might be effective only in the early stages of viral hemorrhagic fevers, including Lasser fever, Crimean-Congo hemorrhagic fever, Venezuelan hemorrhagic fever, and Hantavirus infection. Ribavirin is a prodrug that is metabolised into nucleoside analogs, blocking viral RNA synthesis and viral mRNA capping. Before the development of newer drugs, ribavirin and dual therapy was considered the first-generation and standard antiviral treatment. Newer drugs developed as hepatitis C viral infection treatments can be used to reduce or eliminate the use of ribavirin, which is associated with serious adverse effects.

#### Monovariant analysis

### What do your genetics tell us?



Patients with the TC genotype and Hepatitis C genotype 1 may exhibit a decreased response (sustained virological response, SVR) when administered peg interferon alpha (2a, 2b) and ribavirin. They may also exhibit lower spontaneous clearance in acute HCV infections than patients with the CC genotype. Other genetic and clinical factors may also affect a patient's response to peg interferon and ribavirin.

#### More information:

https://www.ncbi.nlm.nih.gov/pubmed/21145807

### Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| IFNL4 | rs12979860 | TC       |



### Isovaleric acidemia

A rare, autosomal recessive, organic aciduria that is characterized by variable clinical presentation ranging from acute neonatal onset of metabolic decompensation to later onset of chronic, non-specific manifestations including failure to thrive and/or developmental delay. All patients are prone to intermittent, acute metabolic decompensation. During metabolic episodes, urine analysis demonstrates elevated isovaleric acid derivatives.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| IVD  | rs121434285 | GG       |
| IVD  | rs34695403  | CC       |
| IVD  | rs28940889  | CC       |
| IVD  | rs398123683 | TT       |
| IVD  | rs142761835 | GG       |
| IVD  | rs748026507 | TT       |
| IVD  | rs796051983 | CC       |
| IVD  | rs765815516 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Combined malonic and methylmalonic acidemia

Combined malonic and methylmalonic acidemia is a rare inborn error of metabolism characterized by elevation of malonic acid (MA) and methylmalonic acid (MMA) in body fluids, with higher levels of MMA than MA. CMAMMA presents in childhood with metabolic acidosis, developmental delay, dystonia and failure to thrive or in adulthood with seizures, memory loss and cognitive decline.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ACSF3 | rs387907119 | GG       |
| ACSF3 | rs370382601 | AA       |
| ACSF3 | rs757905943 | GG       |
| ACSF3 | rs752338222 | GG       |
| ACSF3 | rs145583876 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Methylmalonic acidemia due to methylmalonyl-CoA epimerase deficiency

Methylmalonic acidemia due to methylmalonyl-CoA epimerase deficiency is a rare inborn error of metabolism disease characterized by mild to moderate, persistent elevation of methylmalonic acid in plasma, urine and cerebrospinal fluid. Clinical presentation may include acute metabolic decompensation with metabolic acidosis (presenting with vomiting, dehydration, confusion, hallucinations), nonspecific neurological symptoms, or may also be asymptomatic.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MCEE | rs111033538 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Vitamin B12-unresponsive methylmalonic acidemia

Vitamin B12-unresponsive methylmalonic acidemia is an inborn error of vitamin B12 (cobalamin) metabolism characterized by recurrent ketoacidotic crises or transient vomiting, dehydration, hypotonia and intellectual deficit, which does not respond to administration of vitamin B12. There are two types of vitamin B12-unresponsive methylmalonic acidemia: mut0 and mut- (see these terms).

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MMUT | rs121918249 | AA       |
| MMUT | rs121918251 | CC       |
| MMUT | rs121918252 | CC       |
| MMUT | rs121918253 | CC       |
| MMUT | rs121918254 | CC       |
| MMUT | rs121918256 | TT       |
| MMUT | rs121918257 | GG       |
| MMUT | rs398123276 | TT       |
| MMUT | rs398123278 | GG       |
| MMUT | rs727504020 | GG       |
| MMUT | rs727504022 | CC       |
| MMUT | rs753564352 | CC       |
| MMUT | rs200019422 | CC       |
| MMUT | rs564069299 | CC       |
| MMUT | rs777031588 | TT       |
| MMUT | rs796052002 | GG       |
| MMUT | rs796052007 | AA       |
| MMUT | rs796052006 | AA       |
| MMUT | rs760782399 | GG       |
| MMUT | rs796052005 | TT       |
| MMUT | rs779990936 | GG       |
| MMUT | rs777758903 | GG       |
| MMUT | rs753288303 | CC       |
| MMUT | rs772552898 | GG       |
| MMUT | rs778702777 | CC       |
| MMUT | rs879253852 | GG       |
| MMUT | rs774159791 | GG       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Vitamin B12-responsive methylmalonic acidemia

An inborn error of vitamin B12 (cobalamin) metabolism characterized by recurrent ketoacidotic comas or transient vomiting, dehydration, hypotonia and intellectual deficit, which responds to vitamin B12. There are three types: cblA, cblB and cblD-variant 2 (cblDv2).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MMAA | rs104893846 | CC       |
| MMAA | rs104893851 | CC       |
| MMAA | rs796051992 | CC       |
| MMAA | rs571038432 | CC       |
| MMAA | rs757548934 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Propionic acidemia

Propionic acidemia (PA) is an organic aciduria caused by the deficient activity of the propionyl Coenzyme A carboxylase and is characterized by life threatening episodes of metabolic decompensation, neurological dysfunction and that may be complicated by cardiomyopathy.

Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PCCA | rs121964958 | TT       |
| PCCA | rs138149179 | CC       |
| PCCA | rs776496862 | GG       |
| PCCA | rs796052019 | GG       |
| PCCA | rs796052018 | GG       |
| PCCA | rs776281864 | AA       |
| PCCB | rs121964959 | CC       |
| PCCB | rs121964960 | GG       |
| PCCB | rs111033542 | CC       |
| PCCB | rs121964961 | AA       |
| PCCB | rs186710233 | CC       |
| PCCB | rs202247822 | TT       |
| PCCB | rs202247823 | AA       |
| PCCB | rs398123464 | GG       |
| PCCB | rs374722096 | CC       |
| PCCB | rs572246667 | CC       |
| PCCB | rs879253815 | CC       |
| РССВ | rs186031457 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Congenital lactic acidosis, Saguenay-Lac-Saint-Jean type

Saguenay-Lac-St. Jean (SLSJ) type congenital lactic acidosis, a French Canadian form of Leigh syndrome (see this term), is a mitochondrial disease characterized by chronic metabolic acidosis, hypotonia, facial dysmorphism and delayed development.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| LRPPRC | rs119466000 | GG       |
| LRPPRC | rs863224052 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Distal renal tubular acidosis

Distal renal tubular acidosis (dRTA) is a disorder of impaired net acid secretion by the distal tubule characterized by hyperchloremic metabolic acidosis. The classic form is often associated with hypokalemia whereas other forms of acquired dRTA may be associated with hypokalemia, hyperkalemia or normokalemia.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SLC4A1 | rs121912744 | GG       |
| SLC4A1 | rs121912751 | GG       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### 3-methylglutaconic aciduria type 1

3-methylglutaconic aciduria (3-MGA) type I is an inborn error of leucine metabolism with a variable clinical phenotype ranging from mildly delayed speech to psychomotor retardation, coma, failure to thrive, metabolic acidosis and dystonia.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| AUH  | rs387906755 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### 3-methylglutaconic aciduria type 7

A rare organic aciduria characterized by increased urinary excretion of 3-methylglutaconic acid, variably associated with neutropenia (sometimes causing recurrent severe infections and potentially resulting in leukemia) and progressive neurologic manifestations, such as global developmental delay, intellectual disability, hypotonia, movement disorder, and seizures. Microcephaly, cataract, facial dysmorphism, growth retardation, endocrine abnormalities, and cardiomyopathy have also been reported. Brain imaging may show cerebral or cerebellar atrophy, or abnormalities of the basal ganglia.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CLPB | rs144078282 | TT       |
| CLPB | rs200203460 | GG       |
| CLPB | rs374473067 | CC       |
| CLPB | rs185461628 | GG       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### 3-methylglutaconic aciduria type 9

A rare organic aciduria characterized by early onset of global developmental delay with severe intellectual disability, seizures, and 3-methylglutaconic aciduria. Additional features are hypotonia, hyperactivity and aggressive behavior, optic atrophy, or spasticity. Brain imaging may show generalized cerebral atrophy and white matter abnormalities.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| TIMM50 | rs797044891 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Argininosuccinic aciduria

A rare, genetic disorder of urea cycle metabolism typically characterized by either a severe, neonatal-onset form that manifests with hyperammonemia accompanied with vomiting, hypothermia, lethargy and poor feeding in the first few days of life, or late-onset forms that manifest with stress- or infection-induced episodic hyperammonemia or, in some, behavioral abnormalities and/or learning disabilities, or chronic liver disease. Patients often manifest liver dysfunction.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ASL  | rs28941472  | AA       |
| ASL  | rs28940286  | CC       |
| ASL  | rs28941473  | GG       |
| ASL  | rs28940287  | CC       |
| ASL  | rs367543005 | CC       |
| ASL  | rs374304304 | CC       |
| ASL  | rs145138923 | GG       |
| ASL  | rs142637046 | GG       |
| ASL  | rs398123126 | CC       |
| ASL  | rs201523601 | GG       |
| ASL  | rs199938613 | CC       |
| ASL  | rs751590073 | GG       |
| ASL  | rs369879957 | CC       |
| ASL  | rs770167670 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### D-2-hydroxyglutaric aciduria

D-2-hydroxyglutaric aciduria (D-2-HGA) is a rare clinically variable neurological form of 2-hydroxyglutaric aciduria characterized biochemically by elevated D-2-hydroxyglutaric acid (D-2-HG) in the urine, plasma and cerebrospinal fluid.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| D2HGDH | rs753528947 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Formiminoglutamic aciduria

A rare disorder of folate metabolism and transport characterized, biochemically, by elevated formiminoglutamate in urine and plasma due to glutamate formiminotransferase deficiency, associated with a highly variable clinical phenotype, ranging from developmental delay, intellectual disability and anemia to normal development without anemia. Increased hydantoin-5-propionic acid and/or folate in plasma may also be associated.

### Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| FTCD AS1 | rs140217223 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### **Fumaric aciduria**

Fumaric aciduria (FA), an autosomal recessive metabolic disorder, is most often characterized by early onset but non-specific clinical signs: hypotonia, severe psychomotor impairment, convulsions, respiratory distress, feeding difficulties and frequent cerebral malformations, along with a distinctive facies. Some patients present with only moderate intellectual impairment.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FH   | rs398123159 | AA       |
| FH   | rs398123166 | GG       |
| FH   | rs587781682 | GG       |
| FH   | rs587782618 | CC       |
| FH   | rs372505976 | TT       |
| FH   | rs863223978 | CC       |
| FH   | rs863224008 | TT       |
| FH   | rs863224004 | CC       |
| FH   | rs863223973 | AA       |
| FH   | rs863224002 | GG       |
| FH   | rs863224000 | AA       |
| FH   | rs863223967 | TT       |
| FH   | rs863223965 | AA       |
| FH   | rs863224015 | TT       |
| FH   | rs863223983 | TT       |
| FH   | rs863223982 | CC       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Mevalonic aciduria

A rare, severe form of mevalonate kinase deficiency (MKD) characterized by dysmorphic features, failure to thrive, psychomotor delay, ocular involvement, hypotonia, progressive ataxia, myopathy, and recurrent inflammatory episodes.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MVK  | rs104895319 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **Achondroplasia**

A primary bone dysplasia with micromelia characterized by rhizomelia, exaggerated lumbar lordosis, brachydactyly, and macrocephaly with frontal bossing and midface hypoplasia.

### Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| FGFR3 | rs28931614 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **Achromatopsia**

A rare autosomal recessive retinal disorder characterized by color blindness, nystagmus, photophobia, and severely reduced visual acuity due to the absence or impairment of cone function.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CNGA3 | rs104893613 | CC       |
| CNGA3 | rs104893614 | GG       |
| CNGA3 | rs104893617 | CC       |
| CNGA3 | rs137852608 | CC       |
| CNGA3 | rs104893619 | GG       |
| CNGA3 | rs104893620 | CC       |
| CNGA3 | rs753625117 | TT       |
| CNGA3 | rs141386891 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Gastric adenocarcinoma and proximal polyposis of the stomach

Gastric adenocarcinoma and proximal polyposis of the stomach (GAPPS) is a rare hereditary gastric cancer characterized by proximal gastric polyposis and increased risk of early-onset, intestinal-type adenocarcinoma of the gastric body, with no duodenal or colorectal polyposis.

Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| APC  | rs879253784 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### X-linked adrenoleukodystrophy

A rare progressive peroxisomal disorder characterized by endocrine dysfunction (adrenal failure and sometimes testicular insufficiency), progressive myelopathy, peripheral neuropathy and, variably, progressive leukodystrophy.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| ABCD1  | rs128624215 | CC       |
| ABCD1  | rs128624219 | GG       |
| ABCD1  | rs128624220 | CC       |
| ABCD1  | rs128624221 | CC       |
| ABCD1  | rs128624224 | CC       |
| ABCD1  | rs4010613   | CC       |
| ABCD1  | rs193922094 | TT       |
| ABCD1  | rs398123100 | CC       |
| ABCD1  | rs398123102 | GG       |
| ABCD1  | rs398123105 | CC       |
| ABCD1  | rs398123106 | CC       |
| ABCD1  | rs398123108 | GG       |
| ABCD1  | rs727503786 | CC       |
| ABCD1  | rs797044726 | CC       |
| BCAP31 | rs128624216 | AA       |
| BCAP31 | rs128624218 | GG       |
| BCAP31 | rs193922097 | GG       |
| BCAP31 | rs193922098 | CC       |
| BCAP31 | rs398123110 | GG       |
| BCAP31 | rs398123113 | CC       |
| BCAP31 | rs797044610 | AA       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Neurological conditions associated with aminoacylase 1 deficiency

An inborn error of metabolism marked by a characteristic pattern of urinary N-acetyl amino acid excretion and neurologic symptoms.

Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| ABHD14A | rs121912699 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### X-linked agammaglobulinemia

A clinically variable form of isolated agammaglobulinemia, an inherited immunodeficiency disorder, characterized in affected males by recurrent bacterial infections during infancy.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ВТК  | rs128620183 | CC       |
| ВТК  | rs128620187 | GG       |
| ВТК  | rs128620185 | CC       |
| ВТК  | rs128621201 | GG       |
| ВТК  | rs128621204 | GG       |
| ВТК  | rs128621210 | AA       |
| ВТК  | rs104894770 | CC       |
| ВТК  | rs193922124 | GG       |
| ВТК  | rs193922125 | TT       |
| ВТК  | rs193922131 | CC       |
| ВТК  | rs193922132 | TT       |
| ВТК  | rs193922133 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Oculocutaneous albinism type 1

A form of oculocutaneous albinism (OCA) characterized by a spectrum of hypopigmentation of skin hair and eyes, ranging from little or no pigmentation to localized pigementation. Nystagmus, photophobia and reduced visual acuity are frequently present. The subtypes include OCA1A, OCA1B, type 1 minimal pigment oculocutaneous albinism (OCA1-MP) and type 1 temperature sensitive oculocutaneous albinism (OCA1-TS).

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=352731

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1079 | rs28940876  | CC       |
| LOC1079 | rs61754388  | CC       |
| LOC1079 | rs121908011 | GG       |
| LOC1079 | rs61753185  | GG       |
| LOC1079 | rs28940880  | GG       |
| LOC1079 | rs61754392  | GG       |
| LOC1079 | rs61753178  | CC       |
| LOC1079 | rs61753180  | GG       |
| LOC1079 | rs61754387  | AA       |
| LOC1079 | rs104894316 | GG       |
| LOC1079 | rs104894317 | GG       |
| LOC1079 | rs104894318 | GG       |
| LOC1079 | rs61754381  | TT       |
| LOC1079 | rs61754386  | AA       |
| LOC1079 | rs62645917  | CC       |
| LOC1079 | rs61754362  | CC       |
| LOC1079 | rs61754365  | GG       |
| LOC1079 | rs61754371  | CC       |
| LOC1079 | rs62645904  | CC       |
| LOC1079 | rs61754380  | GG       |
| LOC1079 | rs797046082 | AA       |
| LOC1079 | rs797046083 | CC       |
| LOC1079 | rs758115945 | GG       |



### Oculocutaneous albinism type 2

A form of oculocutaneous albinism characterized by variable hypopigmentation of the skin and hair, numerous characteristic ocular changes and misrouting of the optic nerves at the chiasm.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| OCA2 | rs121918167 | GG       |
| OCA2 | rs121918170 | TT       |
| OCA2 | rs797045839 | CC       |
| OCA2 | rs797045838 | TT       |
| OCA2 | rs368124046 | CC       |
| OCA2 | rs763819379 | TT       |
| OCA2 | rs371963034 | CC       |
| OCA2 | rs142988897 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Oculocutaneous albinism type 3

A form of oculocutaneous albinism (OCA) characterized by rufous or brown albinism and occurring mainly in the African population.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LURAP1L | rs281865424 | GG       |
| LURAP1L | rs776174514 | TT       |
| TYRP1   | rs104894130 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Oculocutaneous albinism type 4

A form of oculocutaneous albinism characterized by varying degrees of skin and hair hypopigmentation, numerous ocular changes and misrouting of the optic nerves at the chiasm.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC45A2 | rs797045970 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **Alkaptonuria**

A rare disorder of phenylalanine and tyrosine metabolism characterized by the accumulation of homogentisic acid (HGA) and its oxidized product, benzoquinone acetic acid (BQA), in various tissues (e.g. cartilage, connective tissue) and body fluids (urine, sweat), causing urine to darken when exposed to air as well as grey-blue coloration of the sclera and ear helix (ochronosis), and a disabling joint disease involving both the axial and peripheral joints (ochronotic arthropathy).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| HGD  | rs28942100  | GG       |
| HGD  | rs120074170 | AA       |
| HGD  | rs28941783  | CC       |
| HGD  | rs397515347 | CC       |
| HGD  | rs120074173 | TT       |
| HGD  | rs120074174 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Alpha-thalassemia

A rare inherited hemoglobinopathy characterized by impaired synthesis of two to all four alpha-globin chains leading to a variable clinical picture depending on the number of affected alleles.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| HBA2 | rs41464951 | TT       |
| HBA2 | rs41397847 | TT       |
| HBA2 | rs41417548 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Alpha-mannosidosis

An inherited lysosomal storage disorder characterized by immune deficiency, facial and skeletal abnormalities, hearing impairment, and intellectual deficit.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| MAN2B1 | rs121434331 | GG       |
| MAN2B1 | rs80338680  | GG       |
| MAN2B1 | rs80338677  | CC       |
| MAN2B1 | rs398123455 | CC       |
| MAN2B1 | rs398123456 | CC       |
| MAN2B1 | rs398123457 | AA       |
| MAN2B1 | rs775200333 | GG       |
| MAN2B1 | rs561991886 | CC       |
| MAN2B1 | rs768734132 | CC       |
| MAN2B1 | rs779769525 | GG       |
| WDR83  | rs370803545 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### **ALG1-CDG**

A severe form of congenital disorders of N-linked glycosylation characterized by severe developmental and psychomotor delay, muscular hypotonia, intractable early-onset seizures, and microcephaly. Additional features include altered blood coagulation with a high probability of hemorrhages or thromboses, nephrotic syndrome, ascites, hepatomegaly, cardiomyopathy, ocular manifestations (strabismus, nystagmus), and immunodeficiency. The disease is caused by loss-of-function mutations in the gene ALG1 (16p13.3).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ALG1 | rs28939378  | CC       |
| ALG1 | rs121908340 | CC       |
| ALG1 | rs151173406 | CC       |
| ALG1 | rs374928784 | GG       |
| ALG1 | rs369160589 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### **ALG6-CDG**

A form of congenital disorders of N-linked glycosylation characterized by feeding problems, mild-to-moderate neurologic involvement with hypotonia, poor head control, developmental delay, ataxia, strabismus, and seizures, ranging from febrile convulsions to epilepsy. Retinal degeneration has also been reported. A minority of patients show other manifestations, particularly intestinal (such as protein-losing enteropathy) and liver involvement. The disease is caused by loss of function mutations of the gene ALG6 (1p31.3).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ALG6 | rs199682486 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### **ALG8-CDG**

A form of congenital disorders of N-linked glycosylation that is characterized by gastrointestinal symptoms (diarrhea, vomiting, feeding problems with failure to thrive, protein-losing enteropathy), edema and ascites (including hydrops fetalis), hepatomegaly, renal tubulopathy, coagulation anomalies due to thrombocytopenia, brain involvement (psychomotor delay, seizures, ataxia), facial dysmorphism (low-set ears and retrognathia), pes equinovarus, and muscular hypotonia. Cataracts may also be observed. Prognosis is usually poor. The disease is caused by loss-of-function mutations in the gene ALG8 (11q14.1), resulting in a block in the initial step of protein glycosylation.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ALG8 | rs121908293 | TT       |
| ALG8 | rs200888240 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### ATTRV30M amyloidosis

Familial amyloid polyneuropathy (FAP) or transthyretin (TTR) amyloid polyneuropathy is a progressive sensorimotor and autonomic neuropathy of adulthood onset. Weight loss and cardiac involvement are frequent; ocular or renal complications may also occur.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TTR  | rs28933979  | GG       |
| TTR  | rs121918069 | TT       |
| TTR  | rs121918070 | AA       |
| TTR  | rs76992529  | GG       |
| TTR  | rs121918076 | TT       |
| TTR  | rs121918082 | GG       |
| TTR  | rs121918091 | TT       |
| TTR  | rs121918093 | GG       |
| TTR  | rs121918098 | AA       |
| TTR  | rs267607161 | GG       |
| TTR  | rs386134269 | AA       |
| TTR  | rs11541790  | CC       |
| TTR  | rs730881169 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Familial primary localized cutaneous amyloidosis

A rare primary cutaneous amyloidosis characterized by familial occurrence of lichen and/or macular amyloidosis due to fibrillary degeneration and apoptosis of basal keratinocytes, followed by conversion of filamentous masses into amyloid material in the papillary dermis. Patients typically present with a pruritic eruption of grouped hyperkeratotic papules, which may coalesce to form hyperkeratotic plaques, with a predilection for the lower limbs (lichen amyloidosis), or with hyperpigmented macules, sometimes with a reticulate pattern, most commonly arising on the back, chest or interscapular areas (macular amyloidosis).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| OSMR | rs387906822 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Multiple myeloma

Multiple myeloma (MM) is a malignant tumor of plasma cell characterized by overproduction of abnormal plasma cells in the bone marrow and skeletal destruction. The clinical features are bone pain, renal impairment, immunodeficiency, anemia and presence of abnormal immunoglobulins (Ig).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| BRAF  | rs121913355 | CC       |
| FGFR3 | rs78311289  | AA       |
| KRAS  | rs121913527 | CC       |
| KRAS  | rs121913240 | TT       |
| NRAS  | rs121913250 | CC       |
| TP53  | rs28934576  | CC       |
| TP53  | rs28934874  | GG       |
| TP53  | rs587781288 | CC       |
| TP53  | rs730882005 | CC       |
| TP53  | rs876660333 | AA       |
| TP53  | rs17849781  | GG       |
| TP53  | rs764146326 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Congenital dyserythropoietic anemia type I

Congenital dyserythropoietic anemiatype I (CDA I) is a hematologic disorder of erythropoiesis characterized by moderate to severe macrocytic anemia occasionally associated with limb or nail deformities and scoliosis.

### Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| CDAN1 | rs80338694 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Congenital dyserythropoietic anemia type II

Congenital dyserythropoietic anemia type II (CDA II) is the most common form of CDA characterized by anemia, jaundice and splenomegaly and often leading to liver iron overload and gallstones.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SEC23B | rs121918221 | GG       |
| SEC23B | rs121918222 | CC       |
| SEC23B | rs398124225 | CC       |
| SEC23B | rs199939108 | CC       |
| SEC23B | rs727504145 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Sickle cell anemia

A severe form of sickle cell disease (SCD) characterized by homozygosity for the sickle hemoglobin (HbS) gene and which acutely manifests with severe anemia, susceptibility to severe bacterial infections, and ischemic vasoocclusive accidents (VOA). It is a red cell disease of genetic origin which manifests with hemolytic disease and loss of red cell deformability leading to other occlusive events.

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=232

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| НВВ  | rs33946267 | CC       |
| НВВ  | rs33950507 | CC       |
| HBB  | rs33960103 | CC       |
| HBB  | rs35424040 | CC       |
| HBB  | rs35256489 | AA       |
| HBB  | rs33986703 | TT       |
| HBB  | rs11549407 | GG       |
| HBB  | rs63750783 | CC       |
| HBB  | rs33971440 | CC       |
| HBB  | rs33945777 | CC       |
| HBB  | rs33915217 | CC       |
| НВВ  | rs35004220 | CC       |
| HBB  | rs34690599 | GG       |
| НВВ  | rs34451549 | GG       |
| НВВ  | rs33951465 | AA       |
| НВВ  | rs33941377 | GG       |
| НВВ  | rs33931746 | TT       |
| HBB  | rs33978907 | AA       |
| HBB  | rs33914668 | TT       |
| НВВ  | rs33941849 | AA       |



# Hemolytic anemia due to glucophosphate isomerase deficiency

Glucosephosphate isomerase (GPI) deficiency is an erythroenzymopathy characterized by chronic nonspherocytic hemolytic anemia.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GPI  | rs137853583 | GG       |
| GPI  | rs61754634  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hemolytic anemia due to pyrimidine 5' nucleotidase deficiency

Hemolytic anemia due to pyrimidine 5' nucleotidase deficiency is a rare, hereditary, hemolytic anemia due to an erythrocyte nucleotide metabolism disorder characterized by mild to moderate hemolytic anemia associated with basophilic stippling and the accumulation of high concentrations of pyrimidine nucleotides within the erythrocyte. Patients present with variable features of jaundice, splenomegaly, hepatomegaly, gallstones, and sometimes require transfusions. Rare cases of mild development delay and learning difficulties are reported.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| NT5C3A | rs104894025 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hemolytic anemia due to red cell pyruvate kinase deficiency

A rare, genetic metabolic disorder due to pyruvate kinase deficiency characterized by a variable degree of chronic nonspherocytic hemolytic anemia resulting in a variable clinical manifestations ranging from fatal anemia at birth to a to a fully compensated hemolysis without apparent anemia.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PKLR | rs118204085 | CC       |
| PKLR | rs113403872 | CC       |
| PKLR | rs201953584 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### X-linked sideroblastic anemia

X-linked sideroblastic anemia is a constitutional microcytic, hypochromic anemia of varying severity that is clinically characterized by manifestations of anemia and iron overload and that may respond to treatment with pyridoxine and folic acid.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ALAS2 | rs137852304 | CC       |
| ALAS2 | rs137852311 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# X-linked sideroblastic anemia and spinocerebellar ataxia

A rare syndromic, inherited form of sideroblastic anemia characterized by mild to moderate anemia (with hypochromia and microcytosis) and early-onset, non- or slowly progressive spinocerebellar ataxia.

### Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| ABCB7 | rs72554634 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### **Enteric anendocrinosis**

A very rare genetic gastroenterological disease characterized by severe malabsorptive diarrhea (requiring parenteral nutrition and disappearing at fasting) due to a lack of intestinal enteroendocrine cells. It is associated with early-onset (within the first weeks of life) dehydration, metabolic acidosis and diabetes mellitus (that can develop until late childhood). Patient may display various degrees of pancreatic insufficiency that does not explain diarrhea, as it is not reduced with pancreatic enzyme supplementation. Central hypogonadism (developing in the second decade), as well as an association with celiac disease have been reported.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1019 | rs121917837 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hereditary angioedema

Hereditary angioedema (HAE) is a genetic disease characterized by the occurrence of transitory and recurrent subcutaneous and/or submucosal edemas resulting in swelling and/or abdominal pain.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SERPING | rs121907948 | GG       |
| SERPING | rs28940870  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Distal anoctaminopathy

Distal anoctaminopathy is a rare, autosomal recessive distal myopathy characterized by early adult-onset, slowly progressive, often asymmetrical, lower limb muscle weakness initially affecting the calves (with relative anterior muscle sparing) and later proximal muscle involvement, as well as highly elevated creatine kinase (CK) serum levels.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ANO5 | rs137854529 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Peters anomaly**

Peters anomaly (PA) is a congenital corneal opacity disorder characterized by a central corneal leukoma that obstructs the pupil leading to visual loss as well as absence of the posterior corneal stroma and Descemet membrane.

### Your genetic map

| Gene   | SNP        | Genotype |
|--------|------------|----------|
| CYP1B1 | rs72549387 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Rieger anomaly**

Rieger's anomaly is a congenital ocular defect caused by anterior segment dysgenesis and is characterized by severe anterior chamber deformity with prominent strands and marked atrophy of the iris stroma, with hole or pseudo-hole formation and corectopia. The term covers the association of these iris and pupil anomalies with the features of Axenfeldís anomaly (see this term).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PITX2 | rs104893861 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Uhl anomaly**

Uhl anomaly is characterized by an almost complete absence of the myocardium in the right ventricle resulting in a thin walled nonfunctional right ventricle manifesting with cardiac arrhythmias and right ventricular failure. Cases of partial absence of right ventricular myocardium which remains asymptomatic or mildly symptomatic until adulthood have also been reported. Patients presenting with complete Uhl anomaly should be considered for cardiac transplantation.

### Your genetic map

| Gene  | SNP          | Genotype |
|-------|--------------|----------|
| DSP   | rs730880082  | CC       |
| PKP2  | rs878898365  | CC       |
| SCN5A | rs1060499941 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# 46,XY disorder of sex development-adrenal insufficiency due to CYP11A1 deficiency

46,XY disorder of sex development-adrenal insufficiency due to CYP11A1 deficiency is a rare, genetic, developmental defect during embryogenesis disorder characterized by severe, early-onset, salt-wasting adrenal insufficiency and ambiguous/female external genitalia (irrespective of chromosomal sex) due to mutations in the CYP11A1 gene. Milder cases may present delayed onset of adrenal gland dysfunction and genitalia phenotype may range from normal male to female in individuals with 46,XY karyotype. Imaging studies reveal hypoplastic/absent adrenal glands and biochemical findings include low serum cortisol, mineralocorticoids, androgens, and sodium, with elevated potassium levels.

#### Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| CYP11A1 | rs72547508 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Isolated congenital anonychia

Isolated congenital anonychia is characterized by nail abnormalities ranging from onychodystrophy (dystrophic nails) to anonychia (absence of nails). Onychodystrophyanonychia has been described in at least four generations of a family with male-to-male transmission, suggesting autosomal dominant transmission. Anonychia has been described in approximately less than 20 cases; it is likely to be transmitted as an autosomal recessive trait. Total anonychia congenita, in which all the fingernails and toenails are absent, may have an autosomal dominant inheritance pattern.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL7A1 | rs780261665 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Aplasia of lacrimal and salivary glands

A rare autosomal dominant disorder characterized by aplasia, atresia or hypoplasia of the lacrimal and salivary glands leading to varying features since infancy such as recurrent eye infections, irritable eyes, epiphora, xerostomia, dental caries, dental erosion and oral inflammation.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FGF10 | rs104893884 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Cerebral autosomal dominant arteriopathy-subcortical infarcts-leukoencephalopathy

CADASIL (Cerebral Autosomal Dominant Arteriopathy with Subcortical Infarcts and Leukoencephalopathy) is a hereditary cerebrovascular disorder characterized by midadult onset of recurrent subcortical ischemic stroke and cognitive impairment progressing to dementia in addition to migraines with aura and mood disturbances seen in about a third of patients.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| NOTCH3 | rs137852642 | GG       |
| NOTCH3 | rs201118034 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Systemic-onset juvenile idiopathic arthritis

A rare pediatric rheumatological disease characterized by the variable occurrence of chronic arthritis, intermittently high spiking fever, maculopapular rash during fever episodes, hepatomegaly and/or splenomegaly, lymphadenopathy, and serositis.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| LACC1 | rs730880295 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Distal arthrogryposis type 1

A form of arthrogryposis characterized by contractures of the distal regions of the hands and feet in the absence of a primary neurological and/or muscle disease affecting limb function. Facial involvement is limited to a small mouth and impaired mouth opening. No additional anomalies are reported.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TNNT3 | rs199474721 | CC       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Distal arthrogryposis type 5D

Distal arthrogryposis type 5D is a rare subtype of distal arthrogryposis syndrome characterized by arthrogryposis multiplex congenita affecting the hands, feet, ankle, shoulders and/or neck, with camptodactyly of the fingers and limited knee and hip extension, associated with asymmetric ptosis and, less frequently, other ocular manifestations (e.g. ophthalmoplegia, strabismus). Affected individuals frequently have a bulbous nose, furrowed tongue, micro/retrognathia, a short neck, congenital hip dislocation, club feet, scoliosis and short stature.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ECEL1 | rs532757890 | GG       |
| ECEL1 | rs370167241 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Progressive pseudorheumatoid arthropathy of childhood

Progressive pseudorheumatoid arthropathy (dysplasia) of childhood (PPAC; PPD) presents as spondyloepiphyseal dysplasia (SED) tarda with progressive arthropathy and is described as a specific autosomal recessive subtype of SED.

Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CCN6 | rs121908901 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### **VACTERL/VATER** association

VACTERL/VATER is an association of congenital malformations typically characterized by the presence of at least three of the following: vertebral defects, anal atresia, cardiac defects, tracheo-esophageal fistula, renal anomalies, and limb abnormalities.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FOXF1 | rs752504125 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Aspartylglucosaminuria

An autosomal recessive lysosomal storage disease belonging to the oligosaccharidosis group (also called glycoproteinosis).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| AGA  | rs121964904 | CC       |
| AGA  | rs121964908 | GG       |
| AGA  | rs386833437 | CC       |
| AGA  | rs121964909 | AA       |
| AGA  | rs386833431 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal recessive ataxia due to ubiquinone deficiency

This syndrome is characterised by childhood-onset progressive ataxia and cerebellar atrophy.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| COQ8A | rs119468004 | GG       |
| COQ8A | rs578189699 | CC       |
| COQ8A | rs771578775 | CC       |
| COQ8A | rs201908721 | CC       |
| COQ8A | rs752130338 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal recessive ataxia, Beauce type

A rare disorder characterised by a slowly progressive pure cerebellar ataxia associated with dysarthria. It has been described in 53 individuals from 26 families of Canadian origin. The mode of transmission is autosomal recessive. Positional cloning has led to the identification of several SYNE1 gene mutations.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SYNE1 | rs606231134 | TT       |
| SYNE1 | rs797046025 | GG       |
| SYNE1 | rs797046024 | GG       |
| SYNE1 | rs375077588 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Adult-onset autosomal recessive cerebellar ataxia

A rare, genetic, autosomal recessive cerebellar ataxia disease characterized by adulthood-onset of slowly progressive manifesting spinocerebellar ataxia, with gait appendicular ataxia, dysarthria, ocular movement anomalies (e.g. horizontal, vertical, and/or downbeat nystagmus, hypermetric saccades), increased deep tendon reflexes and progressive cognitive decline. Additional variable features may include proximal leg muscle wasting and fasciculations, pes cavus, inspiratory stridor, epilepsy, retinal degeneration and cataracts. Brain imaging reveals marked cerebellar atrophy and electromyography shows evidence of lower motor neuron involvement.

#### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ANO10 | rs797045240 | TT       |
| ANO10 | rs765592794 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Autosomal recessive cerebellar ataxia due to CWF19L1 deficiency

A rare autosomal recessive cerebellar ataxia characterized by early onset of slowly progressive cerebellar atrophy, clinically manifesting with extremity and truncal ataxia, global developmental delay, intellectual impairment, nystagmus, dysarthria, intention tremor, and pyramidal signs, among others.

Your genetic map

| Gene      | SNP         | Genotype |
|-----------|-------------|----------|
| C.WF19I 1 | rs587780326 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Non-progressive cerebellar ataxia with intellectual disability

Non-progressive cerebellar ataxia with intellectual deficit is a rare subtype of autosomal dominant cerebellar ataxia type 1 (ADCA type 1; see this term) characterized by the onset in infancy of cerebellar ataxia, neonatal hypotonia (in some), mild developmental delay and, in later life, intellectual disability. Less common features include dysarthria, dysmetria and dysmorphic facial features (long face, bulbous nose long philtrum, thick lower lip and pointed chin).

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CAMTA1 | rs863224853 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# X-linked progressive cerebellar ataxia

A rare X-linked cerebellar ataxia, characterized by a combination of upper and lower motor neuron signs, with an age of onset in the first or second decade, slow progression, and normal intelligence. Typical features of cerebellar dysfunction include gait and limb ataxia, intention tremor, dysmetria, dysdiadochokinesia, dysarthria, nystagmus, and hyperreflexia. Further phenotypic features are pes cavus, scoliosis, muscle atrophy, and peripheral sensory and motor nerve abnormalities.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| ATP2B3 | rs397514619 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal dominant spastic ataxia type 1

A rare, genetic, autosomal dominant spastic ataxia disorder characterized by lower-limb spasticity and ataxia in the form of head jerks, ocular movement abnormalities, dysarthria, dysphagia and gait disturbances.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| TAPBPL | rs878854975 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Spinocerebellar ataxia with epilepsy

Spinocerebellar ataxia with epilepsy is a rare, mitochondrial DNA maintenance syndrome characterized by cerebellar ataxia, sensory peripheral neuropathy, myoclonus, epilepsy, progressive cognitive impairment, late-onset ptosis and external ophthalmoplegia. Liver failure may also occur, most often in association with the use of antiepileptic drug sodium valproate.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FANCI | rs139562274 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Spinocerebellar ataxia with axonal neuropathy type 1

Spinocerebellar ataxia with axonal neuropathy type 1 is a rare, genetic neurological disorder characterized by a late childhood onset of slowly progressive cerebellar ataxia. Initial manifestations include weakness and atrophy of distal limb muscles, areflexia and loss of pain, vibration and touch sensations in upper and lower extremities. Gaze nystagmus, cerebellar dysarthria, peripheral neuropathy, stepagge gait and pes cavus develop as disease progresses. Cerebellar atrophy (especially of the vermis) is present in all affected individuals. Additional reported manifestations include seizures, mild brain atrophy, mild hypercholesterolemia and borderline hypoalbuminemia.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TDP1 | rs370121773 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Spinocerebellar ataxia with axonal neuropathy type 2

A rare autosomal recessive cerebellar ataxia (ARCA), characterized by progressive cerebellar ataxia associated with frequent oculomotor apraxia, severe neuropathy and an elevated serum alpha-fetoprotein (AFP) level.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SETX | rs29001665  | GG       |
| SETX | rs121434379 | AA       |
| SETX | rs797045068 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Infantile-onset spinocerebellar ataxia

Infantile-onset spinocerebellar ataxia (IOSCA) is a hereditary neurological disorder with early and severe involvement of both the peripheral and central nervous systems. It has only been described in Finnish families.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TWNK | rs80356540  | AA       |
| TWNK | rs386834146 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Spinocerebellar ataxia type 13

Spinocerebellar ataxia type 13 (SCA13) is a very rare subtype of type I autosomal dominant cerebellar ataxia (ADCA type I; see this term). It is characterized by onset in childhood marked by delayed motor and cognitive development followed by mild progression of cerebellar ataxia.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KCNC3 | rs797044872 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Spinocerebellar ataxia type 19/22

Spinocerebellar ataxia type 19 (SCA19) is a very rare subtype of type I autosomal dominant cerebellar ataxia (ADCA type I; see this term). It is characterized by mild cerebellar ataxia, cognitive impairment, low scores on the Wisconsin Card Sorting Test measuring executive function, myoclonus, and postural tremor.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KCND3 | rs797045634 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Spinocerebellar ataxia type 21

Spinocerebellar ataxia type 21 (SCA21) is a very rare subtype of type I autosomal dominant cerebellar ataxia (ADCA type I; see this term). It is characterized by slowly progressive cerebellar ataxia, mild cognitive impairment, postural and/or resting tremor, bradykinesia, and rigidity.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| TMEM24 | rs606231451 | GG       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Spinocerebellar ataxia type 28

Spinocerebellar ataxia type 28 (SCA28) is a very rare subtype of type I autosomal dominant cerebellar ataxia (ADCA type I; see this term). It is characterized by juvenile onset, slowly progressive cerebellar ataxia due to Purkinje cell degeneration.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1079 | rs151344523 | CC       |
| LOC1079 | rs151344514 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Ataxia-oculomotor apraxia type 1

A rare autosomal recessive cerebellar ataxia, characterized by progressive cerebellar ataxia associated with oculomotor apraxia, severe neuropathy, and hypoalbuminemia.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| APTX | rs104894103 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Multiple intestinal atresia

Multiple intestinal atresia is a rare form of intestinal atresia characterized by the presence of numerous atresic segments in the small bowel (duodenum) or large bowel and leading to symptoms of intestinal obstruction: vomiting, abdominal bloating and inability to pass meconium in newborns.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TTC7A | rs886042805 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Gyrate atrophy of choroid and retina

Gyrate atrophy of the choroid and retina (GACR) is a very rare, inherited retinal dystrophy, characterized by progressive chorioretinal atrophy, myopia and early cataract.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| OAT  | rs121965040 | CC       |
| OAT  | rs121965043 | AA       |
| OAT  | rs121965053 | CC       |
| OAT  | rs386833598 | AA       |
| OAT  | rs386833618 | GG       |
| OAT  | rs386833621 | CC       |
| OAT  | rs200068769 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal dominant congenital benign spinal muscular atrophy

A rare distal hereditary motor neuropathy, with a variable clinical phenotype, typically characterized by congenital, non-progressive, predominantly distal, lower limb muscle weakness and atrophy and congenital (or early-onset) flexion contractures of the hip, knee and ankle joints. Reduced or absent lower limb deep tendon reflexes, skeletal anomalies (bilateral talipes equinovarus, scoliosis, kyphoscoliosis, lumbar hyperlordisis), late ambulation, waddling gait, joint hyperlaxity and/or bladder and bowel dysfuntion are usually also associated.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TRPV4 | rs267607144 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Spinal muscular atrophy with respiratory distress type 1

Spinal muscular atrophy with respiratory distress type 1 is a rare genetic motor neuron disease characterized by severe respiratory distress/respiratory failure in association with diaphragmatic eventration and palsy, as well as progressive, symmetrical, distal-to-proximal muscle weakness and atrophy (in lower limbs especially). Patients typically have a history of intrauterine growth retardation, low birth weight, feeble cry, weak suck and failure to thrive and present with inspiratory stridor, recurrent episodes of dyspnea or apnea, cyanosis and absent deep tendon reflexes. Kyphosis/scoliosis, foot deformities and joint contractures are frequently associated features.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| IGHMBP2 | rs137852665 | GG       |
| IGHMBP2 | rs137852667 | GG       |
| IGHMBP2 | rs200089714 | CC       |
| IGHMBP2 | rs35193202  | CC       |
| IGHMBP2 | rs145226920 | CC       |
| IGHMBP2 | rs797044802 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Scapuloperoneal spinal muscular atrophy

A rare, genetic motor neuron disease characterized by predominantly motor axonal peripheral neuropathy manifesting with progressive scapuloperoneal muscular atrophy and weakness, laryngeal palsy, congenital absence of muscles, and, in some, skeletal abnormalities.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TRPV4 | rs267607143 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal dominant childhood-onset proximal spinal muscular atrophy

A rare genetic neuromuscular disease characterized by early onset muscular weakness with predominant proximal lower limb involvement. The disorder is static or only mildly progressive. The severity of manifestations ranges from lethal, congenital muscular atrophy with arthrogryposis to asymptomatic with subclinical features.

Your genetic map

Gene SNP Genotype

DYNC1H1 rs587780564 CC

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Congenital bilateral absence of vas deferens

Congenital bilateral absence of the vas deferens (CBAVD) is a condition leading to male infertility.

### Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| CFTR     | rs78655421  | GG       |
| CFTR AS1 | rs121908805 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **Autosomal recessive bestrophinopathy**

A rare retinal dystrophy, characterized by central visual loss in the first 2 decades of life, associated with an absent electrooculogram (EOG) light rise and a reduced electroretinogram (ERG).

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1079 | rs200277476 | CC       |
| LOC1079 | rs281865238 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### **Beta-mannosidosis**

Beta-mannosidosis is a very rare lysosomal storage disease characterized by developmental delay of varying severity and hearing loss, but that can manifest a wide phenotypic heterogeneity.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MANBA | rs374545788 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Beta-thalassemia

Beta-thalassemia (BT) is characterized by deficiency (Beta+) or absence (Beta0) of synthesis of the beta globin chains of hemoglobin (Hb).

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| НВВ  | rs33941849 | AA       |
| НВВ  | rs34999973 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Bradyopsia**

Bradyopsia is characterised by prolonged electroretinal response suppression leading to difficulties adjusting to changes in luminance, normal to subnormal acuity and photophobia.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| RGS9 | rs121908449 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Autosomal dominant brachyolmia**

A relatively severe form of brachyolmia, a group of rare genetic skeletal disorders, characterized by short-trunked short stature, platyspondyly and kyphoscoliosis. Degenerative joint disease (osteoarthropathy) in the spine, large joints and interphalangeal joints becomes manifest in adulthood.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TRPV4 | rs121912633 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Nasopharyngeal carcinoma

Nasopharyngeal carcinoma (NPC) is a tumor arising from the epithelial cells that cover the surface and line the nasopharynx.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TP53 | rs121912660 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Familial papillary or follicular thyroid carcinoma

Familial papillary or follicular thyroid carcinoma is a rare, hereditary nonmedullary thyroid carcinoma characterized by the presence of differentiated thyroid cancer of follicular cell origin in two or more first-degree relatives, in the absence of other familial tumor syndromes or radiation exposure. Frequent capsular invasion is observed. Biopsy reveals multicentric tumors with multiple adenomatous nodules with or without oxyphilia and follicular or papillary carcinoma histology.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| BRAF | rs121913364 | TT       |
| NRAS | rs11554290  | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Cystinuria

A rare disorder of renal tubular amino acid transport characterized by recurrent formation of kidney cystine stones.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SLC3A1 | rs200483989 | CC       |
| SLC7A9 | rs121908480 | CC       |
| SLC7A9 | rs121908484 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Citrullinemia type I

Citrullinemia type I is a rare autosomal recessive urea cycle defect characterized biologically by hyperammonemia and clinically by progressive lethargy, poor feeding and vomiting in the neonatal form (Acute neonatal citrullinemia type I, see this term) and by variable hyperammonemia in the lateronset form (Adult-onset citrullinemia type I, see this term).

Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| ASS1    | rs121908638 | GG       |
| ASS1    | rs121908639 | GG       |
| ASS1    | rs121908645 | CC       |
| ASS1    | rs121908646 | TT       |
| ASS1    | rs398123130 | AA       |
| ASS1    | rs192838388 | GG       |
| ASS1    | rs148918985 | CC       |
| ASS1    | rs398123131 | GG       |
| ASS1    | rs371265106 | GG       |
| ASS1    | rs751930594 | AA       |
| ASS1    | rs183276875 | CC       |
| LOC1053 | rs121908640 | CC       |
| LOC1053 | rs121908641 | GG       |
| LOC1053 | rs121908647 | GG       |
| LOC1053 | rs727503814 | GG       |
| LOC1053 | rs771937610 | GG       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Keratosis follicularis spinulosa decalvans

A severe subtype of citrin deficiency characterized clinically by adult onset (20 and 50 years of age), recurrent episodes of hyperammonemia and associated neuropsychiatric symptoms such as nocturnal delirium, confusion, restlessness, disorientation, drowsiness, memory loss, abnormal behavior (aggression, irritability, and hyperactivity), seizures, and coma.

### Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| SLC25A13 | rs80338721 | GG       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### COG4-CDG

COG4-CDG is an extremely rare form of CDG syndrome characterized clinically in the single reported case to date by seizures, some dysmorphic features, axial hyponia, slight peripheral hypertonia and hyperreflexia.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| COG4 | rs267606740 | GG       |
| COG4 | rs376663459 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### COG5-CDG

COG5-CDG is an extremely rare form of CDG syndrome characterized clinically in the single reported case to date by moderate mental retardation with slow and inarticulate speech, truncal ataxia, and mild hypotonia.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| COG5 | rs548774836 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Progressive familial intrahepatic cholestasis

Progressive familial intrahepatic cholestasis (PFIC) refers to a heterogeneous group of autosomal recessive disorders of childhood that disrupt bile formation and present with cholestasis of hepatocellular origin.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ABCB4 | rs863225298 | GG       |
| ABCB4 | rs377160065 | GG       |
| NR1H4 | rs113090017 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Neonatal intrahepatic cholestasis due to citrin deficiency

A mild subtype of citrin deficiency characterized clinically by low birth weight, failure to thrive, transient intrahepatic cholestasis, multiple aminoacidemia, galactosemia, hypoproteinemia, hepatomegaly, decreased coagulation factors, hemolytic anemia, variable but mostly mild liver dysfunction, and hypoglycemia.

### Your genetic map

| Gene     | SNP        | Genotype |
|----------|------------|----------|
| SLC25A13 | rs80338722 | CC       |
| SLC25A13 | rs80338729 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Tuberous sclerosis complex**

A rare neurocutaneous disorder characterized by multisystem hamartomas, most commonly involving the skin, brain, kidneys, lungs, eye, and heart, and associated with neuropsychiatric disorders.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TSC1 | rs118203447 | AA       |
| TSC1 | rs118203426 | AA       |
| TSC1 | rs118203504 | GG       |
| TSC1 | rs118203537 | GG       |
| TSC1 | rs118203542 | GG       |
| TSC1 | rs118203549 | GG       |
| TSC1 | rs118203345 | AA       |
| TSC1 | rs118203606 | GG       |
| TSC1 | rs118203610 | CC       |
| TSC1 | rs118203614 | CC       |
| TSC1 | rs118203631 | GG       |
| TSC1 | rs118203353 | CC       |
| TSC1 | rs118203352 | TT       |
| TSC1 | rs118203647 | GG       |
| TSC1 | rs118203661 | GG       |
| TSC1 | rs118203668 | GG       |
| TSC1 | rs118203680 | GG       |
| TSC1 | rs118203682 | GG       |
| TSC1 | rs118203687 | CC       |
| TSC1 | rs118203727 | GG       |
| TSC1 | rs118203728 | GG       |
| TSC1 | rs118203732 | GG       |
| TSC1 | rs118203384 | GG       |
| TSC1 | rs118203402 | CC       |
| TSC1 | rs118203403 | AA       |
| TSC1 | rs118203423 | CC       |
| TSC1 | rs118203427 | GG       |
| TSC1 | rs118203434 | GG       |
| TSC1 | rs118203438 | CC       |
| TSC1 | rs118203440 | TT       |
| TSC1 | rs118203450 | CC       |
|      |             |          |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Metaphyseal chondrodysplasia, Spahr type

A rare, genetic, primary bone dysplasia disease characterized by usually moderate, postnatal short stature, progressive genu vara deformity, a waddling gait, and radiological signs of metaphyseal dysplasia (i.e. irregular, sclerotic and widened metaphyses), in the absence of biochemical abnormalities suggestive of rickets disease. Intermittent knee pain, lordosis, and delayed motor development may also occasionally be associated.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MMP13 | rs140059558 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## X-linked dominant chondrodysplasia punctata

A rare genodermatosis disease with great phenotypic variation and characterized most commonly by ichthyosis following the lines of Blaschko, chondrodysplasia punctata (CDP), asymmetric shortening of the limbs, cataracts and short stature.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| EBP  | rs104894799 | CC       |
| EBP  | rs104894800 | GG       |
| EBP  | rs587783599 | GG       |
| EBP  | rs587783601 | GG       |
| EBP  | rs587783602 | TT       |
| EBP  | rs587783603 | GG       |
| EBP  | rs587783605 | TT       |
| EBP  | rs587783607 | GG       |
| EBP  | rs587783608 | AA       |
| EBP  | rs587783609 | TT       |
| EBP  | rs587783610 | AA       |
| EBP  | rs587783611 | CC       |
| EBP  | rs587783612 | GG       |
| EBP  | rs587783613 | CC       |
| EBP  | rs587783614 | TT       |
| EBP  | rs587783616 | TT       |
| EBP  | rs587783617 | GG       |
| EBP  | rs587783619 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Infantile convulsions and choreoathetosis

Infantile Convulsions and paroxysmal ChoreoAthetosis (ICCA) syndrome is a neurological condition characterized by the occurrence of seizures during the first year of life (Benign familial infantile epilepsy; see this term) and choreoathetotic dyskinetic attacks during childhood or adolescence.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PRRT2 | rs387907126 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Paroxysmal dystonic choreathetosis with episodic ataxia and spasticity

A rare, genetic, paroxysmal dystonia disorder characterized by childhood to adolescent-onset of episodic paroxysmal choreoathetosis, triggered mainly by sudden movements, prolonged exercise, anxiety and emotional stress, in association with progressive spastic paraparesis (onest in adulthood), gait ataxia, mild to moderate cognitive impairment, and/or epileptic seizures. Episodes typically last from a few minutes to hours, have a variable frequency (daily to yearly), and are relieved by rest. Frequency of episodes tends to decrease with age.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SLC2A1 | rs387907312 | GG       |
| SLC2A1 | rs796053254 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Cranio-osteoarthropathy**

Cranio-osteoarthropathy (COA) is a form of primary hypertrophic osteoarthropathy characterized by delayed closure of the cranial sutures and fontanels, digital clubbing, arthropathy, and periostosis.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| HPGD | rs121434480 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Hereditary cryohydrocytosis with reduced stomatin

Hereditary cryohydrocytosis with reduced stomatin is a rare hemolytic anemia characterized by combination of neurologic features, such as psychomotor delay, seizures, variable movement disorders, and hemolytic anemia with stomatocytosis, resulting in cation-leaky erythrocytes, pseudohyperkalemia, hemolytic crises and hepatosplenomegaly. Cataracts are also a presenting feature.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SLC2A1 | rs796053272 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal recessive cutis laxa type 1

A generalized connective tissue disorder characterized by the association of wrinkled, redundant and sagging inelastic skin with severe systemic manifestations (lung atelectesias and emphysema, vascular anomalies, and gastrointestinal and genitourinary tract diverticuli).

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| EFEMP2 | rs193302867 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal recessive cutis laxa type 2A

A rare, genetic, dermis elastic tissue disease characterized by redundant, overfolded skin of variable severity, ranging from wrinkly skin to cutis laxa associated with pre- and post-natal retardation, hypotonia, mild to moderate developmental delay, late closure of anterior fontanelle, and dysmorphism (including craniofacial microcephaly, hypertelorism, downslanting palpebral fissures, large, prominent nasal root with funnel nose, small, low-set ears, philtrum, drooping facial skin). manifestations may include seizures, intellectual disability, congenital hip dislocation, inguinal hernia, and cortical and cerebellar malformations. Pretibial pseudo-ecchymotic skin lesions have occasionally been associated.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| ATP6V0A | rs374480381 | GG       |
| LOC1053 | rs80356750  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal recessive cutis laxa type 2B

A rare, hereditary, developmental defect with connective tissue involvement characterized by cutis laxa of variable severity, in utero growth restriction, congenital hip dislocation and joint hyperlaxity, wrinkling of the skin, in particular the dorsum of hands and feet, and progeroid facial features. Hypotonia, developmental delay, and intellectual disability are common. In addition, cataracts, corneal clouding, wormian bones, lipodystrophy and osteopenia have been reported.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PYCR1 | rs121918377 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### **DDOST-CDG**

DDOST-CDG is a form of congenital disorders of N-linked glycosylation characterized by failure to thrive, developmental delay, hypotonia, strabismus and hepatic dysfunction. The disease is caused by mutations in the gene DDOST (1p36.1).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| DDOST | rs387906831 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Congenital bile acid synthesis defect type 1

Congenital bile acid synthesis defect type 1 (BAS defect type 1) is the most common anomaly of bile acid synthesis characterized by variable manifestations of progressive cholestatic liver disease, and fat malabsorption.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| HSD3B7 | rs104894518 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Congenital bile acid synthesis defect type 4

Congenital bile acid synthesis defect type 4 (BAS defect type 4) is an anomaly of bile acid synthesis characterized by mild cholestatic liver disease, fat malabsorption and/or neurological disease.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| C1QTNF3 | rs121917814 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Isolated cytochrome C oxidase deficiency

A rare mitochondrial oxidative phosphorylation disorder characterized by a highly variable clinical phenotype, including a benign infantile mitochondrial type affecting mainly the skeletal muscle, a lethal infantile mitochondrial myopathy linked to severe metabolic acidosis and mitochondrial dysfunction in skeletal muscle and often also in heart, Leigh syndrome, which causes severe, early-onset, progressive, and fatal encephalopathy, and French-Canadian type Leigh syndrome, which affects mostly the skeletal muscle, but also brain and liver.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| MT TN  | rs199476130 | GG       |
| PET100 | rs587777839 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Isolated complex I deficiency

Isolated complex I deficiency is a rare inborn error of metabolism due to mutations in nuclear or mitochondrial genes encoding subunits or assembly factors of the human mitochondrial complex I (NADH: ubiquinone oxidoreductase) and is characterized by a wide range of manifestations including marked and often fatal lactic acidosis, cardiomyopathy, leukoencephalopathy, pure myopathy and hepatopathy with tubulopathy. Among the numerous clinical phenotypes observed are Leigh syndrome, Leber hereditary optic neuropathy and MELAS syndrome (see these terms).

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| NDUFS3 | rs28939714  | CC       |
| NDUFS3 | rs104894270 | CC       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Isolated complex III deficiency

Isolated complex III deficiency is a rare, genetic, mitochondrial oxidative phosphorylation disorder characterized by a wide spectrum of clinical manifestations ranging from isolated myopathy or transient hepatopathy to severe multisystem disorder (that may include hypotonia, failure to thrive, psychomotor delay, cardiomyopathy, encephalopathy, renal tubulopathy, hearing impairment, lactic acidosis, hypoglycemia and other signs and symptoms).

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TTC19 | rs747166010 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Non-acquired isolated growth hormone deficiency

A rare non-acquired pituitary hormone deficiency characterized by growth deficiency, delayed bone age, and short stature of variable severity and age of onset, and with variable response to treatment with recombinant human growth hormone, depending on the respective subtype of the disease. Hormone deficiency may be quantitative or qualitative in nature.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| GH1  | rs71640277 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Combined oxidative phosphorylation defect type 15

Combined oxidative phosphorylation defect type 15 is a rare mitochondrial disease due to a defect in mitochondrial protein synthesis characterized by onset in infancy or early childhood of muscular hypotonia, gait ataxia, mild bilateral pyramidal tract signs, developmental delay (affecting mostly speech and coordination) and subsequent intellectual disability. Short stature, obesity, microcephaly, strabismus, nystagmus, reduced visual acuity, lactic acidosis, and a brain neuropathology consistent with Leigh syndrome are also reported.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MTFMT | rs201431517 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Combined oxidative phosphorylation defect type 20

Combined oxidative phosphorylation defect type 20 is a rare mitochondrial oxidative phosphorylation disorder characterized by variable combination of psychomotor delay, hypotonia, muscle weakness, seizures, microcephaly, cardiomyopathy and mild dysmorphic facial features. Variable types of structural brain anomalies have also been reported. Biochemical studies typically show decreased activity of mitochondrial complexes (mainly complex I).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| VARS2 | rs143821815 | GG       |
| VARS2 | rs769768815 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Combined oxidative phosphorylation defect type 8

Combined oxidative phosphorylation defect type 8 is a mitochondrial disease due to a defect in mitochondrial protein synthesis resulting in deficiency of respiratory chain complexes I, III and IV in the cardiac and skeletal muscle and brain characterized by severe hypertrophic cardiomyopathy, pulmonary hypoplasia, generalized muscle weakness and neurological involvement.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| AARS2 | rs138119149 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Congenital intrinsic factor deficiency

Congenital intrinsic factor deficiency (IFD) is a rare disorder of vitamin B12 (cobalamin) absorption that is characterized by megaloblastic anemia and neurological abnormalities.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CBLIF | rs147785187 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Congenital fibrinogen deficiency

Congenital deficiencies of fibrinogen are coagulation disorders characterized by bleeding symptoms ranging from mild to severe resulting from reduced quantity and/or quality of circulating fibrinogen. Afibrinogenemia (complete absence of fibrinogen) and hypofibrinogenemia (reduced plasma fibrinogen concentration) (see these terms) correspond to quantitative anomalies of fibrinogen while dysfibrinogenemia corresponds to a functional anomaly of fibrinogen. Hypo- and dysfibrinogenemia may be frequently combined (hypodysfibrinogenemia).

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FGA  | rs146387238 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Congenital sucrase-isomaltase deficiency

A rare, genetic, congenital carbohydrate intolerance disorder characterized by lack of endogenous sucrase activity, marked reduction in isomaltase activity, and moderate decrease in maltase activity, and clinically manifesting with diarrhea, abdominal pain and bloating, failure to thrive.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SI   | rs200451408 | GG       |
| SI   | rs200328403 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Congenital factor V deficiency**

Congenital factor V deficiency is an inherited bleeding disorder due to reduced plasma levels of factor V (FV) and characterized by mild to severe bleeding symptoms.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| F5   | rs118203907 | TT       |
| F5   | rs118203910 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Congenital factor XI deficiency

A rare inherited bleeding disorder characterized by reduced levels and/or activity of factor XI (FXI) resulting in moderate bleeding symptoms, usually occurring after trauma or surgery.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| F11     | rs121965063 | GG       |
| F11     | rs121965064 | TT       |
| F11     | rs28934608  | CC       |
| F11     | rs121965069 | TT       |
| F11     | rs121965071 | GG       |
| F11     | rs770505620 | CC       |
| F11 AS1 | rs281875250 | CC       |
| F11 AS1 | rs201007090 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Congenital factor XIII deficiency**

Congenital factor XIII deficiency is an inherited bleeding disorder due to reduced levels and activity of factor XIII (FXIII) and characterized by hemorrhagic diathesis frequently associated with spontaneous abortions and defective wound healing. Factor XIII deficiency is one of the most rare coagulation factor deficiencies.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| F13A1 | rs372296352 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# 3-phosphoglycerate dehydrogenase deficiency, infantile/juvenile form

3-Phosphoglycerate dehydrogenase deficiency (3-PGDH deficiency) is an autosomal recessive form of serine deficiency syndrome characterized clinically in the few reported cases by congenital microcephaly, psychomotor retardation and intractable seizures in the infantile form and by absence seizures, moderate developmental delay and behavioral disorders in the juvenile form

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PHGDH | rs121907987 | GG       |
| PHGDH | rs886041874 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## 3-hydroxy-3-methylglutaryl-CoA synthase deficiency

3-hydroxy-3-methylglutaryl-CoA synthase deficiency (HMG-CoA synthase deficiency) is a rare autosomal recessively inherited disorder of ketone body metabolism (see this term), reported in less than 20 patients to date, characterized clinically by episodes of decompensation (often associated with gastroenteritis or fasting) that present with vomiting, lethargy, hepatomegaly, non ketotic hypoglycemia and, in rare cases, coma. Patients are mostly asymptomatic between acute epidodes. HMG-CoA synthase deficiency requires an early diagnosis in order to avoid hypoglycemic crises that can lead to permanent brain damage or death.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| HMGCS2 | rs137852638 | CC       |
| HMGCS2 | rs142637231 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Long chain 3-hydroxyacyl-CoA dehydrogenase deficiency

A mitochondrial disorder of long chain fatty acid oxidation characterized in most patients by onset in infancy/ early childhood of hypoketotic hypoglycemia, metabolic acidosis, liver disease, hypotonia and, frequently, cardiac involvement with arrhythmias and/or cardiomyopathy.

### Your genetic map

| Gene    | SNP          | Genotype |
|---------|--------------|----------|
| GAREM2  | rs794727219  | CC       |
| HADHA   | rs786204607  | GG       |
| LOC1079 | rs1057516217 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Acyl-CoA dehydrogenase 9 deficiency

A rare disorder characterized by neurological dysfunction, hepatic failure and cardiomyopathy due to a deficiency of complex I of the respiratory chain.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| ACAD9  | rs368949613 | CC       |
| ACAD9  | rs387907042 | GG       |
| ACAD9  | rs753711253 | CC       |
| ACAD9  | rs773586510 | GG       |
| ACAD9  | rs149753643 | GG       |
| ACAD9  | rs150283105 | CC       |
| CFAP92 | rs377022708 | CC       |
| CFAP92 | rs863224845 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Short chain acyl-CoA dehydrogenase deficiency

Short-chain acyl-CoA dehydrogenase (SCAD) deficiency is a very rare inborn error of mitochondrial fatty acid oxidation characterized by variable manifestations ranging from asymptomatic individuals (in most cases) to those with failure to thrive, hypotonia, seizures, developmental delay and progressive myopathy.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ACADS | rs121908003 | CC       |
| ACADS | rs57443665  | TT       |
| ACADS | rs28940872  | CC       |
| ACADS | rs121908006 | CC       |
| ACADS | rs28941773  | CC       |
| ACADS | rs387906950 | AA       |
| ACADS | rs140853839 | CC       |
| ACADS | rs796051905 | GG       |
| ACADS | rs749491616 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Medium chain acyl-CoA dehydrogenase deficiency

Medium chain acyl-CoA dehydrogenase (MCAD) deficiency (MCADD) is an inborn error of mitochondrial fatty acid oxidation characterized by a rapidly progressive metabolic crisis, often presenting as hypoketotic hypoglycemia, lethargy, vomiting, seizures and coma, which can be fatal in the absence of emergency medical intervention.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| ACADM  | rs77931234  | AA       |
| ACADM  | rs121434274 | GG       |
| ACADM  | rs121434277 | GG       |
| ACADM  | rs121434278 | GG       |
| ACADM  | rs121434280 | TT       |
| ACADM  | rs121434281 | CC       |
| ACADM  | rs398123072 | CC       |
| ACADM  | rs398123073 | TT       |
| ACADM  | rs398123074 | TT       |
| ACADM  | rs148207467 | CC       |
| ACADM  | rs778906552 | GG       |
| ACADM  | rs762114560 | CC       |
| ACADM  | rs745844469 | AA       |
| ACADM  | rs866388216 | GG       |
| ACADM  | rs779759347 | GG       |
| ACADM  | rs150310121 | GG       |
| DLSTP1 | rs373715782 | CC       |
| DLSTP1 | rs200724875 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Very long chain acyl-CoA dehydrogenase deficiency

Very long-chain acyl-CoA dehydrogenase (VLCAD) deficiency (VLCADD) is an inherited disorder of mitochondrial long-chain fatty acid oxidation with a variable presentation including: cardiomyopathy, hypoketotic hypoglycemia, liver disease, exercise intolerance and rhabdomyolysis.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| ACADVL | rs113994167 | TT       |
| ACADVL | rs398123092 | AA       |
| ACADVL | rs751995154 | GG       |
| DLG4   | rs369560930 | GG       |
| DLG4   | rs398123091 | GG       |
| DLG4   | rs794727773 | GG       |
| DLG4   | rs545215807 | GG       |
| MIR324 | rs113690956 | GG       |
| MIR324 | rs118204014 | CC       |
| MIR324 | rs118204018 | GG       |
| MIR324 | rs118204016 | GG       |
| MIR324 | rs2309689   | GG       |
| MIR324 | rs113994171 | GG       |
| MIR324 | rs398123083 | GG       |
| MIR324 | rs794727113 | CC       |
| MIR324 | rs112406105 | GG       |
| MIR324 | rs766742117 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Adenylosuccinate lyase deficiency

A disorder of purine metabolism characterized by intellectual disability, psychomotor delay and/or regression, seizures, and autistic features.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ADSL | rs119450941 | GG       |
| ADSL | rs374259530 | TT       |
| ADSL | rs756210458 | CC       |
| ADSL | rs750614500 | CC       |
| ADSL | rs761493155 | CC       |
| ADSL | rs763542069 | GG       |
| ADSL | rs796052248 | CC       |
| ADSL | rs372895468 | CC       |
| ADSL | rs776496275 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Alpha-1-antitrypsin deficiency

A rare hereditary, metabolic disease characterized by serum levels of alpha-1-antitrypsin (AAT) that are well below the normal range. In the most severe form, the disease can clinically manifest with chronic liver disorders (cirrhosis, fibrosis), respiratory disorders (emphysema, bronchiectasis), and rarely panniculitis or vasculitis.

### Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| SERPINA1 | rs199422209 | GG       |
| SERPINA1 | rs121912714 | TT       |
| SERPINA1 | rs199422211 | TT       |
| SERPINA1 | rs55819880  | GG       |
| SERPINA1 | rs864622051 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Aromatase deficiency**

A rare disorder that disrupts the synthesis of estradiol, resulting in hirsutism of mothers during gestation of an affected child; pseudohermaphroditism and virilization in women; and tall stature, osteoporosis and obesity in men.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| MIR4713 | rs121434534 | GG       |
| MIR4713 | rs121434538 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **Beta-ketothiolase deficiency**

A rare, genetic organic aciduria affecting ketone body metabolism and the catabolism of isoleucine and characterized by intermittent ketoacidotic episodes associated with vomiting, dyspnea, tachypnoea, hypotonia, lethargy and coma, with an onset during infancy and usually ceasing by adolescence.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ACAT1 | rs120074141 | GG       |
| ACAT1 | rs145229472 | AA       |
| ACAT1 | rs120074144 | CC       |
| ACAT1 | rs120074146 | TT       |
| ACAT1 | rs148639841 | AA       |
| ACAT1 | rs398123096 | TT       |
| ACAT1 | rs727503796 | GG       |
| ACAT1 | rs762991875 | GG       |
| ACAT1 | rs199524907 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Beta-ureidopropionase deficiency

Beta-ureidopropionase deficiency is a very rare pyrimidine metabolism disorder described in fewer than 10 patients to date with an extremely wide clinical picture ranging from asymptomatic cases to neurological (epilepsy, autism) and developmental disorders (urogenital, colorectal).

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| UPB1 | rs747539101 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Biotinidase deficiency**

A late-onset form of multiple carboxylase deficiency, an inborn error of biotin metabolism that, if untreated, is characterized by seizures, breathing difficulties, hypotonia, skin rash, alopecia, hearing loss and delayed development.

| Gene | SNP         | Genotype |
|------|-------------|----------|
| BTD  | rs104893688 | CC       |
| BTD  | rs80338686  | CC       |
| BTD  | rs28934601  | AA       |
| BTD  | rs80338685  | AA       |
| BTD  | rs104893686 | TT       |
| BTD  | rs104893687 | CC       |
| BTD  | rs397514360 | GG       |
| BTD  | rs397514363 | CC       |
| BTD  | rs397514367 | GG       |
| BTD  | rs397514369 | GG       |
| BTD  | rs190386869 | CC       |
| BTD  | rs138818907 | CC       |
| BTD  | rs146136265 | CC       |
| BTD  | rs397507174 | AA       |
| BTD  | rs397507175 | GG       |
| BTD  | rs146015592 | GG       |
| BTD  | rs397507170 | GG       |
| BTD  | rs398123139 | GG       |
| BTD  | rs587783005 | CC       |

Your genetic map

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Butyrylcholinesterase deficiency**

Butyrylcholinesterase (BChE) deficiency is a metabolic disorder characterised by prolonged apnoea after the use of certain anaesthetic drugs, including the muscle relaxants succinylcholine or mivacurium and other ester local anaesthetics. The duration of the prolonged apnoea varies significantly depending on the extent of the enzyme deficiency.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ВСНЕ | rs104893684 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Carbamoyl-phosphate synthetase 1 deficiency

A rare, severe disorder of urea cycle metabolism typically characterized by either a neonatal-onset of severe hyperammonemia that occurs few days after birth and manifests with lethargy, vomiting, hypothermia, seizures, coma and death or a presentation outside the newborn period at any age with (sometimes) milder symptoms of hyperammonemia.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CPS1 | rs121912592 | CC       |
| CPS1 | rs121912595 | GG       |
| CPS1 | rs201716417 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Carnitine palmitoyl transferase 1A deficiency

Carnitine palmitoyltransferase 1A (CPT-1A) deficiency is an inborn error of metabolism that affects mitochondrial oxidation of long chain fatty acids (LCFA) in the liver and kidneys, and is characterized by recurrent attacks of fasting-induced hypoketotic hypoglycemia and risk of liver failure.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CPT1A | rs80356774  | GG       |
| CPT1A | rs80356798  | CC       |
| CPT1A | rs80356780  | CC       |
| CPT1A | rs80356779  | GG       |
| CPT1A | rs398123654 | GG       |
| CPT1A | rs191107774 | CC       |
| CPT1A | rs189174414 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Carnitine palmitoyltransferase II deficiency

Carnitine palmitoyltransferase II (CPT II) deficiency is an inherited metabolic disorder that affects mitochondrial oxidation of long chain fatty acids (LCFA). Three forms of CPT II deficiency have been described: a myopathic form, a severe infantile form and a neonatal form (see these terms).

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| CPT2 | rs28936375 | CC       |
| CPT2 | rs74315295 | TT       |
| CPT2 | rs74315296 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Carnitine-acylcarnitine translocase deficiency

Carnitine-acylcarnitine translocase (CACT) deficiency is a life-threatening, inherited disorder of fatty acid oxidation which usually presents in the neonatal period with severe hypoketotic hypoglycemia, hyperammonemia, cardiomyopathy and/or arrhythmia, hepatic dysfunction, skeletal muscle weakness, and encephalopathy.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC25A2 | rs541208710 | AA       |
| SLC25A2 | rs756998699 | GG       |
| SLC25A2 | rs147540030 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Cernunnos-XLF deficiency**

Cernunnos-XLF deficiency is a rare form of combined immunodeficiency characterized by microcephaly, growth retardation, and T and B cell lymphopenia.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| NHEJ1 | rs118204453 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Fatal infantile cytochrome C oxidase deficiency

Fatal infantile cytochrome C oxidase deficiency is a very rare mitochondrial disease characterized clinically by cardioencephalomyopathy resulting in death in infancy.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| COX15 | rs28939711  | GG       |
| COX15 | rs397514662 | AA       |
| COX15 | rs778412019 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Dihydropyrimidine dehydrogenase deficiency

A rare disorder of pyrimidine metabolism characterized by a variable phenotype ranging from absence of symptoms to severe neurological involvement with developmental delay, intellectual disability, and seizures. Additional signs and symptoms may include hypotonia, microcephaly, ocular abnormalities (such as microphthalmia, nystagmus, and strabismus), and autistic behavior, among others. Analysis of urine typically shows high levels of uracil and thymine. Patients are at risk of suffering from severe toxicity after the administration of the anti-neoplastic agent 5-fluorouracil.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DPYD | rs72549310  | GG       |
| DPYD | rs146170505 | CC       |
| DPYD | rs568132506 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Dimethylglycine dehydrogenase deficiency

Dimethylglycine dehydrogenase deficiency is an extremely rare autosomal recessive glycine metabolism disorder characterized clinically in the single reported case to date by muscle fatigue and a fish-like odor.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| DMGDH | rs121908331 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Dopamine beta-hydroxylase deficiency

A very rare primary monoamine neurotransmitter synthesis disorder with norepinephrine and adrenaline deficiency that leads to young-onset severe orthostatic hypotension and eyelid ptosis.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| DBH  | rs74853476 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Fructose-1,6-bisphosphatase deficiency

Fructose-1,6-biphosphatase (FBP) deficiency is a disorder of fructose metabolism characterized by recurrent episodes of fasting hypoglycemia with lactic acidosis, that may be lifethreatening in neonates and infants.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FBP1 | rs121918188 | CC       |
| FBP1 | rs758609113 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Class I glucose-6-phosphate dehydrogenase deficiency

A rare constitutional hemolytic anemia characterized in symptomatic forms by mild to severe chronic hemolysis, which is further exacerbated by oxidative stress and may lead to chronic non-shperocytic hemolytic anemia of variable severity. Variation in glucose-6-phosphate dehydrogenase levels accounts for differences in sensitivity to oxidants, with chronic hemolysis occurring in association with very low enzyme levels, while the majority of affected individuals remain asymptomatic. The most common clinical manifestations are neonatal jaundice and signs and symptoms of acute hemolysis (such as fatigue, back pain, anemia, and jaundice).

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=466026

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CASK | rs398122844 | TT       |
| G6PD | rs5030869   | CC       |
| G6PD | rs137852314 | CC       |
| G6PD | rs5030868   | GG       |
| G6PD | rs137852315 | CC       |
| G6PD | rs137852316 | CC       |
| G6PD | rs137852317 | CC       |
| G6PD | rs137852319 | AA       |
| G6PD | rs137852320 | TT       |
| G6PD | rs137852321 | CC       |
| G6PD | rs137852322 | AA       |
| G6PD | rs137852323 | CC       |
| G6PD | rs137852324 | CC       |
| G6PD | rs72554665  | CC       |
| G6PD | rs137852333 | GG       |
| G6PD | rs137852327 | CC       |
| G6PD | rs137852329 | GG       |
| G6PD | rs137852330 | GG       |
| G6PD | rs137852331 | TT       |
| G6PD | rs137852332 | CC       |
| G6PD | rs137852334 | GG       |
| G6PD | rs137852335 | CC       |
| G6PD | rs137852336 | CC       |
| G6PD | rs137852337 | CC       |
| G6PD | rs137852339 | CC       |
| G6PD | rs76645461  | AA       |
| G6PD | rs78478128  | GG       |
| G6PD | rs137852343 | AA       |
| G6PD | rs137852344 | GG       |
| G6PD | rs137852345 | GG       |
| G6PD | rs137852346 | CC       |
|      |             |          |



### Glutaryl-CoA dehydrogenase deficiency

Glutaryl-CoA dehydrogenase (GCDH) deficiency (GDD) is an autosomal recessive neurometabolic disorder clinically characterized by encephalopathic crises resulting in striatal injury and a severe dystonic dyskinetic movement disorder.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| GCDH  | rs121434366 | TT       |
| GCDH  | rs121434370 | GG       |
| GCDH  | rs121434373 | GG       |
| GCDH  | rs398123195 | GG       |
| GCDH  | rs142967670 | CC       |
| GCDH  | rs777201305 | GG       |
| GCDH  | rs766518430 | CC       |
| GCDH  | rs786205862 | GG       |
| GCDH  | rs786205861 | CC       |
| GCDH  | rs794726972 | CC       |
| GCDH  | rs149120354 | TT       |
| SYCE2 | rs121434367 | CC       |
| SYCE2 | rs121434369 | CC       |
| SYCE2 | rs121434372 | GG       |
| SYCE2 | rs147611168 | GG       |
| SYCE2 | rs141437721 | AA       |
| SYCE2 | rs372983141 | GG       |
| SYCE2 | rs199999619 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Glutathione synthetase deficiency

A rare disorder characterised by hemolytic anemia, associated with metabolic acidosis and 5-oxoprolinuria in moderate forms, and with progressive neurological symptoms and recurrent bacterial infections in the most severe forms.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| GSS  | rs28938472 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Guanidinoacetate methyltransferase deficiency

Guanidinoacetate methyltransferase (GAMT) deficiency is a creatine deficiency syndrome characterized by global developmental delay/intellectual disability (DD/ID), prominent speech delay, autistic/hyperactive behavioral disorders, seizures, and various types of pyramidal and/or extra-pyramidal manifestations.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GAMT | rs80338735  | CC       |
| GAMT | rs370421531 | CC       |
| GAMT | rs753198836 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Holocarboxylase synthetase deficiency

A rare, early-onset and life-threatening, multiple carboxylase deficiency that when left untreated, is characterized by vomiting, tachypnea, irritability, lethargy, exfoliative dermatitis, and seizures that can worsen to coma and death.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| HLCS | rs119103227 | AA       |
| HLCS | rs119103229 | GG       |
| HLCS | rs119103230 | CC       |
| HLCS | rs119103231 | CC       |
| HLCS | rs753887925 | CC       |
| HLCS | rs146448211 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **LCAT deficiency**

LCAT (lecithin-cholesterol acyltransferase) deficiency is a rare lipoprotein metabolism disorder characterized clinically by corneal opacities, and sometimes renal failure and hemolytic anemia, and biochemically by severely reduced HDL cholesterol.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| LCAT | rs121908050 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Lysosomal acid lipase deficiency

A rare, progressive metabolic liver disease due to marked to complete lysosomal acid lipase deficiency and characterized by dyslipidemia and massive lipid accumulation leading to hepatomegaly and liver dysfunction, splenomegaly, accelerated atherosclerosis.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| LIPA | rs121965086 | AA       |
| LIPA | rs116928232 | CC       |
| LIPA | rs797045094 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **Lipoyl transferase 1 deficiency**

Lipoyl transferase 1 deficiency is a very rare inborn error of metabolism disorder, with a highly variable phenotype, typically characterized by neonatal to infancy-onset of seizures, psychomotor delay, and abnormal muscle tone that may include hypo- and/or hypertonia, resulting in generalized weakness, dystonic movements, progressive respiratory distress, associated with severe lactic acidosis and elevated lactate, ketoglutarate and 2-oxoacids in urine. Additional manifestations may include dehydration, vomiting, signs of liver dysfunction, extrapyramidal signs, spastic tetraparesis, brisk deep tendon reflexes, speech impairment, swallowing difficulties, and pulmonary hypertension.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MITD1 | rs137891647 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Homocystinuria without methylmalonic aciduria

Homocystinuria without methylmalonic aciduria is an inborn error of vitamin B12 (cobalamin) metabolism characterized by megaloblastic anemia, encephalopathy and, sometimes, developmental delay, and associated with homocystinuria and hyperhomocysteinemia. There are three types of homocystinuria without methylmalonic aciduria; cblE, cblG and cblD-variant 1 (cblDv1).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MTR  | rs121913578 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Myeloperoxidase deficiency

A rare primary immunodeficiency due to a defect in innate immunity characterized by a marked decrease or absence of myeloperoxidase activity in neutrophils and monocytes. Clinically, most patients are asymptomatic. Occasionally, severe infectious complications may occur, particularly recurrent candida infections, being especially severe in the setting of comorbid diabetes mellitus.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MPO  | rs119468010 | GG       |
| MPO  | rs778013714 | CC       |
| MPO  | rs762526880 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Monoamine oxidase A deficiency

Monoamine oxidase-A deficiency is a very rare recessive X-linked biogenic amine metabolism disorder characterized clinically by mild intellectual deficit, impulsive aggressiveness, and sometimes violent behavior and presenting from childhood.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MAOA | rs796065312 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Alpha-N-acetylgalactosaminidase deficiency

A very rare lysosomal storage disease that is clinically and pathologically heterogeneous and is characterized by deficient NAGA activity.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1079 | rs779423223 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Ornithine transcarbamylase deficiency

A rare, genetic disorder of urea cycle metabolism and ammonia detoxification characterized by either a severe, neonatal-onset disease found mainly in males, or later-onset (partial) forms of the disease. Both present with episodes of hyperammonemia that can be fatal and which can lead to neurological sequelae.

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=664

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| OTC  | rs68026851 | GG       |
| OTC  | rs67960011 | CC       |
| OTC  | rs72556267 | GG       |
| OTC  | rs68031618 | GG       |
| OTC  | rs72558454 | CC       |
| OTC  | rs67120076 | CC       |
| OTC  | rs66626662 | GG       |
| OTC  | rs72558465 | GG       |
| OTC  | rs66656800 | GG       |
| OTC  | rs72558412 | TT       |
| OTC  | rs72554307 | CC       |
| OTC  | rs72554308 | GG       |
| OTC  | rs72558495 | TT       |
| OTC  | rs74518351 | AA       |
| OTC  | rs72554310 | CC       |
| OTC  | rs66521141 | GG       |
| OTC  | rs66677059 | TT       |
| OTC  | rs72554326 | CC       |
| OTC  | rs67418243 | CC       |
| OTC  | rs66550389 | GG       |
| OTC  | rs68058881 | GG       |
| OTC  | rs72552295 | TT       |
| OTC  | rs72556257 | AA       |
| OTC  | rs72556260 | GG       |
| OTC  | rs72556271 | AA       |
| OTC  | rs72556274 | CC       |
| OTC  | rs72556275 | GG       |
| OTC  | rs66867430 | AA       |
| OTC  | rs72556277 | CC       |
| OTC  | rs72556278 | CC       |
| OTC  | rs72556284 | CC       |
|      |            |          |



### Pyruvate carboxylase deficiency, benign type

Benign pyruvate carboxylase (PC) deficiency (Type C) is a rare, very mild form of PC deficiency characterized by episodic metabolic acidosis and normal or mildly delayed neurological development.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PC   | rs796052029 | CC       |
| PC   | rs113994142 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Pyruvate dehydrogenase deficiency

Pyruvate dehydrogenase deficiency (PDHD) is a rare neurometabolic disorder characterized by a wide range of clinical signs with metabolic and neurological components of varying severity. Manifestations range from often fatal, severe, neonatal lactic acidosis to later-onset neurological disorders. Six subtypes related to the affected subunit of the PDH complex have been recognized with significant clinical overlap: PDHD due to E1-alpha, E1-beta, E2 and E3 deficiency, PDHD due to E3-binding protein deficiency, and PDH phosphatase deficiency (see these terms).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DLAT | rs797044957 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **Prolidase deficiency**

Prolidase deficiency is an inherited disorder of peptide metabolism characterized by severe skin lesions, recurrent infections (involving mainly the skin and respiratory system), dysmorphic facial features, variable cognitive impairment, and splenomegaly.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PEPD | rs121917723 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Mitochondrial trifunctional protein deficiency

A rare disorder of fatty acid oxidation characterized by a wide clinical spectrum ranging from severe neonatal manifestations including cardiomyopathy, hypoglycemia, metabolic acidosis, skeletal myopathy and neuropathy, liver disease and death to a mild phenotype with peripheral polyneuropathy, episodic rhabdomyolysis and pigmentary retinopathy.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| HADHA | rs137852770 | GG       |
| HADHA | rs781222705 | TT       |
| HADHA | rs137852774 | AA       |
| HADHA | rs147103714 | GG       |
| HADHB | rs121913132 | GG       |
| HADHB | rs121913133 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Pterin-4 alpha-carbinolamine dehydratase deficiency

Dehydratase deficiency or pterin-4 alpha-carbinolamine dehydratase (PCD) is considered a transient and benign form of hyperphenylalaninemia due to tetrahydrobiopterin deficiency (see this term), characterized by muscular hypotonia, irritability (detected by EEG), slow acquisition of psychomotor skills, age-dependent movement disorders, including dystonia and an accompanying excretion of 7-substituted pterins. Neurological developement is normal with dietary control of blood phenyalanine. PCD is inherited in an autosomal recessive manner.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PCBD1 | rs104894172 | CC       |
| PCBD1 | rs121913015 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Purine nucleoside phosphorylase deficiency

A rare immune disease characterized by progressive immunodeficiency leading to recurrent and opportunistic infections, autoimmunity and malignancy as well as neurologic manifestations.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PNP  | rs104894451 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### S-adenosylhomocysteine hydrolase deficiency

A rare, multisystemic inherited metabolic diseases characterized clinically, by a variable spectrum of severity, primarily comprised of psychomotor delay, myopathy and liver dysfunction. Most patients present in infancy, but the onset can be already in utero or in adult age. Hypermethioninemia is frequent, but often absent in infancy. Creatine kinase is elevated in most patients.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| AHCY | rs121918608 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Succinyl-CoA:3-oxoacid CoA transferase deficiency

A rare, genetic disorder in ketone body utilization characterized by severe, potentially fatal intermittent episodes of ketoacidosis.

Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| OXCT1 | rs121909301 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Familial glucocorticoid deficiency

Familial glucocorticoid deficiency (FGD) is a group of primary adrenal insufficiencies characterized clinically by neonatal hyperpigmentation, hypoglycemia, failure to thrive, and recurrent infections, and biochemically by glucocorticoid deficiency without mineralocorticoid deficiency.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MC2R | rs104894658 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Multiple acyl-CoA dehydrogenase deficiency

Multiple acyl-CoA dehydrogenation deficiency (MADD) is a disorder of fatty acid and amino acid oxidation and is a clinically heterogeneous disorder ranging from a severe neonatal presentation with metabolic acidosis, cardiomyopathy and liver disease, to a mild childhood/adult disease with episodic metabolic decompensation, muscle weakness, and respiratory failure.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ETFA  | rs119458969 | AA       |
| ETFA  | rs199763682 | GG       |
| ETFDH | rs121964954 | GG       |
| ETFDH | rs121964955 | GG       |
| ETFDH | rs387907170 | TT       |
| ETFDH | rs377656387 | CC       |
| ETFDH | rs398124151 | GG       |
| ETFDH | rs398124152 | CC       |
| ETFDH | rs377686388 | TT       |
| ETFDH | rs796051965 | AA       |
| ETFDH | rs796051959 | GG       |
| ETFDH | rs558005496 | GG       |
| ETFDH | rs863224869 | TT       |
| ETFDH | rs200920510 | CC       |
| FLAD1 | rs771466122 | CC       |
| FLAD1 | rs199979286 | CC       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Systemic primary carnitine deficiency

A disorder of carnitine cycle and carnitine transport that is characterized classically by early childhood onset cardiomyopathy often with weakness and hypotonia, failure to thrive and recurrent hypoglycemic hypoketotic seizures and/or coma.

## Multivariate analysis

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=158

### Your genetic map

| C | iene    | SNP         | Genotype |
|---|---------|-------------|----------|
| Ν | 11R3936 | rs267607052 | GG       |
| Ν | 11R3936 | rs11568520  | CC       |
| Ν | 11R3936 | rs72552725  | AA       |
| Ν | 11R3936 | rs202088921 | CC       |
| S | LC22A5  | rs72552727  | GG       |
| S | LC22A5  | rs121908886 | CC       |
| S | LC22A5  | rs121908888 | AA       |
| S | LC22A5  | rs121908889 | GG       |
| S | LC22A5  | rs121908890 | CC       |
| S | LC22A5  | rs267607054 | CC       |
| S | LC22A5  | rs151231558 | GG       |
| S | LC22A5  | rs114269482 | CC       |
| S | LC22A5  | rs386134208 | CC       |
| S | LC22A5  | rs386134210 | GG       |
| S | LC22A5  | rs386134212 | CC       |
| S | LC22A5  | rs144547521 | CC       |
| S | LC22A5  | rs72552732  | CC       |
| S | LC22A5  | rs60376624  | CC       |
| S | LC22A5  | rs386134223 | GG       |
| S | LC22A5  | rs377724489 | AA       |
| S | LC22A5  | rs796052039 | GG       |
| S | LC22A5  | rs777004046 | AA       |
| S | LC22A5  | rs185551386 | GG       |



### Combined pituitary hormone deficiencies, genetic forms

Congenital hypopituitarism is characterized by multiple pituitary hormone deficiency, including somatotroph, thyrotroph, lactotroph, corticotroph or gonadotroph deficiencies, due to mutations of pituitary transcription factors involved in pituitary ontogenesis. Congenital hypopituitarism is rare compared with the high incidence of hypopituitarism induced by pituitary adenomas, transsphenoidal surgery or radiotherapy.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| POU1F1 | rs104893764 | CC       |
| POU1F1 | rs104893765 | CC       |
| PROP1  | rs140016178 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Infantile cerebellar-retinal degeneration

Infantile cerebellar-retinal degeneration is a rare, neurodegenerative disorder characterized by an early onset of truncal hypotonia, variable forms of seizures, athetosis, severe global developmental delay, intellectual disability and various ophthalmologic abnormalities, including strabismus, nystagmus, optic atrophy and retinal degeneration.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| POLR3H | rs375761361 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Brain demyelination due to methionine adenosyltransferase deficiency

Hypermethioninemia due to methionine adenosyltransferase deficiency is a very rare metabolic disorder resulting in isolated hepatic hypermethioninemia that is usually benign due to partial inactivation of enzyme activity. Rarely patients have been found to have an odd odor or neurological disorders such as brain demyelination.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MAT1A | rs118204001 | AA       |
| MAT1A | rs118204003 | GG       |
| MAT1A | rs116659053 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **Desminopathy**

A rare genetic skeletal muscle disease characterized by abnormal chimeric aggregates of desmin and other cytoskeletal proteins and granulofilamentous material at the ultrastructural level in muscle biopsies and variable clinical myopathological features, age of disease onset and rate of disease progression. Patients present with bilateral skeletal muscle weakness that starts in distal leg muscles and spreads proximally, sometimes involving trunk, neck flexors and facial muscles and often cardiomyopathy manifested by conduction blocks, arrhythmias, chronic heart failure, and sometimes tachyarrhythmia. Weakness eventually leads to wheelchair dependence. Respiratory insufficiency can be a major cause of disability and death, beginning with nocturnal hypoventilation with oxygen desaturation and progressing to daytime respiratory failure.

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=98909

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DES  | rs57639980  | TT       |
| DES  | rs121913003 | CC       |
| DES  | rs121913005 | CC       |
| DES  | rs62635763  | CC       |
| DES  | rs397516698 | GG       |
| DES  | rs267607482 | AA       |
| DES  | rs59308628  | TT       |
| DES  | rs57694264  | GG       |
| DES  | rs61726467  | GG       |
| DES  | rs267607485 | AA       |
| DES  | rs267607499 | AA       |
| DES  | rs267607495 | CC       |
| DES  | rs267607483 | AA       |
| DES  | rs150974575 | CC       |
| DES  | rs781590560 | CC       |



#### **Desmosterolosis**

Desmosterolosis is a very rare sterol biosynthesis disorder characterized by multiple congenital anomalies, failure to thrive, and intellectual disability, with elevated levels of desmosterol.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| DHCR24 | rs119475041 | CC       |
| DHCR24 | rs387906939 | CC       |
| DHCR24 | rs387906940 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Maternally-inherited diabetes and deafness

Maternally inherited diabetes and deafness (MIDD) is a mitochondrial disorder characterized by maternally transmitted diabetes and sensorineural deafness.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MT TE | rs121434453 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Nephrogenic diabetes insipidus

A rare, genetic renal tubular disease that is characterized by polyuria with polydipsia, recurrent bouts of fever, constipation, and acute hypernatremic dehydration after birth that may cause neurological sequelae.

### Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| AQP2     | rs28931580  | AA       |
| AQP5 AS1 | rs104894328 | CC       |
| AQP5 AS1 | rs104894326 | GG       |
| AQP5 AS1 | rs104894334 | GG       |
| AQP5 AS1 | rs104894338 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Congenital chloride diarrhea

A rare genetic intestinal disease characterized by persistent, potentially life-threatening, watery diarrhea with excessive levels of chloride in stools, hypochloremia, hyponatremia, hypokalemia, and metabolic alkalosis, resulting in chronic dehydration and failure to thrive. Antenatal ultrasound typically reveals polyhydramnios and significant dilatation of the fetal intestinal loops.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC26A3 | rs386833471 | CC       |
| SLC26A3 | rs386833479 | CC       |
| SLC26A3 | rs386833480 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Congenital sodium diarrhea

A rare, genetic, non-syndromic intestinal transport defect characterized by congenital onset of severe watery diarrhea containing high concentrations of sodium, hyponatremia and metabolic acidosis.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SPINT2 | rs121908403 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Syndromic diarrhea

A rare gastroenterologic disease manifesting as intractable diarrhea in the first month of life with failure to thrive and associated with facial dysmorphism, hair abnormalities, and, in some cases, immune disorders and intrauterine growth restriction.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SKIC3 | rs534237033 | CC       |
| SKIC3 | rs140800288 | GG       |
| SKIC3 | rs200085753 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Dihydropyrimidinuria

Dihydropyrimidinase (DPD) deficiency is a very rare pyrimidine metabolism disorder with a variable clinical presentation including gastrointestinal manifestations (feeding problems, cyclic vomiting, gastroesophageal reflux, malabsorption with villous atrophy), hypotonia, intellectual deficit, seizures, and less frequently growth retardation, failure to thrive, microcephaly and autism. Asymptomatic cases are also reported. DPD deficiency increases the risk of 5-FU toxicity.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DPYS | rs61758444  | GG       |
| DPYS | rs201280871 | GG       |
| DPYS | rs142574766 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Familial dysautonomia

A rare hereditary sensory and autonomic neuropathy characterized by decreased pain and temperature perception, absent deep tendon reflexes, proprioceptive ataxia, afferent baroreflex failure and progressive optic neuropathy.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ELP1 | rs111033171 | AA       |
| ELP1 | rs137853022 | CC       |
| ELP1 | rs28939712  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Severe intellectual disability and progressive spastic paraplegia

Severe intellectual disability and progressive spastic paraplegia is a rare complex spastic paraplegia characterized by an early onset hypotonia that progresses to spasticity, global developmental delay, severe intellectual disability and speech impairment, microcephaly, short stature and dysmorphic features. Patients often become non-ambulatory, and some develop seizures and stereotypic laughter.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| AP4S1 | rs200440467 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Syndromic X-linked intellectual disability due to JARID1C mutation

Syndromic X-linked intellectual disability due to JARID1C mutation is characterised by mild to severe intellectual deficit associated with variable clinical manifestations including spasticity, cryptorchidism, maxillary hypoplasia, alopecia areata, epilepsy, short stature, impaired speech and behavioural problems. To date, it has been described in less than 15 families. Transmission is X-linked recessive and the syndrome is caused by mutations in the JARID1C (SMCX) gene encoding a JmjC-domain protein with histone demethylase activity.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| KDM5C   | rs199422235 | CC       |
| KDM5C   | rs587780372 | GG       |
| MIR6895 | rs782246658 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## X-linked intellectual disability, Cabezas type

An X-linked syndromic intellectual disability characterized by developmental delay, intellectual disability (ID) with severe speech impairment, and short stature. Variable additional clinical features have been associated, including behavioral disturbances, gait abnormalities, tremor, seizures, hypogonadism, truncal obesity, unspecific facial dysmorphism, and small hands and feet.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CUL4B | rs121434616 | GG       |
| CUL4B | rs797044862 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## X-linked intellectual disability, Snyder type

X-linked intellectual disability, Snyder type is a rare X-linked intellectual disability syndrome characterized by hypotonia, asthenic build with diminished muscle mass, severe generalized psychomotor delay, unsteady gait and moderate to severe intellectual disability, as well as a long, thin, asymmetrical face with prominent lower lip, long fingers and toes and nasal, dysarthric or absent speech. Bone abnormalities (e.g., osteoporosis, kyphoscoliosis, fractures, joint contractures) are also characteristic. Myoclonic, or myoclonic-like, seizures and renal abnormalities have been associated in some patients.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SMS  | rs121434610 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## X-linked intellectual disability, Najm type

Najm type X-linked intellectual deficit is a rare cerebellar dysgenesis syndrome characterized by variable clinical manifestations ranging from mild intellectual deficit with or without congenital nystagmus, to severe cognitive impairment associated with cerebellar and pontine hypoplasia/atrophy and abnormalities of cortical development.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CASK | rs137852815 | GG       |
| CASK | rs387906705 | GG       |
| CASK | rs587783360 | GG       |
| CASK | rs587783361 | GG       |
| CASK | rs587783364 | GG       |
| CASK | rs587783366 | TT       |
| CASK | rs587783368 | CC       |
| CASK | rs587783369 | CC       |
| CASK | rs587783371 | GG       |
| CASK | rs794727270 | GG       |
| CASK | rs749742837 | GG       |
| CASK | rs863224854 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## 2q23.1 microdeletion syndrome

The newly described 2q23.1 microdeletion syndrome includes severe intellectual deficit with pronounced speech delay, behavioral abnormalities including hyperactivity and inappropriate laughter, short stature and seizures.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MBD5 | rs886041003 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Intellectual disability, Birk-Barel type

Intellectual disability, Birk-Barel type is a rare, genetic, syndromic intellectual disability characterized by congenital central hypotonia, developmental delay, moderate to severe intellectual disability and subtle dysmorphic features which evolve over time (dolichocephaly, myopathic facies, ptosis, short and broad philtrum, tented upper lip vermillion, palatal anomalies, mild micro- and/or retrognathia). Patients present reduced facial movements, lethargy, weak cry, transient neonatal hypoglycemia, severe feeding difficulties and failure to thrive. Dysphagia, particularly of solid food, asthenic body build, joint contractures and scoliosis are additional features.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KCNK9 | rs121908332 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Familial dyskinesia and facial myokymia

Familial dyskinesia and facial myokymia is a rare paroxysmal movement disorder, with childhood or adolescent onset, characterized by paroxysmal choreiform, dystonic, and myoclonic movements involving the limbs (mostly distal upper limbs), neck and/or face, which can progressively increase in both frequency and severity until they become nearly constant. Patients may also present with delayed motor milestones, perioral and periorbital dyskinesias, dysarthria, hypotonia, and weakness.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ADCY5 | rs796065306 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Paroxysmal exertion-induced dyskinesia

Paroxysmal exertion-induced dyskinesia (PED) is a form of paroxysmal dyskinesia (see this term), characterized by painless attacks of dystonia of the extremities triggered by prolonged physical activities.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SLC2A1 | rs121909739 | CC       |
| SLC2A1 | rs121909740 | CC       |
| SLC2A1 | rs267607061 | GG       |
| SLC2A1 | rs202060209 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Familial aortic dissection

Familial aortic dissection is the term used to describe rupture of the aortic wall at the level of the media, resulting in the formation of a false channel and deviation of part of the aortic flux. Familial predisposition to thoracic aortic aneurysms and type A dissections (concerning the ascending aorta and/or the aortic arch) has been demonstrated in around 19% of patients presenting with thoracic aortic dissections and several loci have been identified so far (16p12.2-p13.13, 3p24-25). This predisposition is transmitted in an autosomal dominant manner.

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=229

### Your genetic map

| Gene   | SNP          | Genotype |
|--------|--------------|----------|
| ACTA2  | rs869025352  | AA       |
| ACTA2  | rs397516685  | CC       |
| COL3A1 | rs869312034  | GG       |
| COL3A1 | rs587779433  | GG       |
| COL3A1 | rs587779458  | GG       |
| COL3A1 | rs587779685  | GG       |
| COL3A1 | rs794728057  | CC       |
| COL3A1 | rs1393544920 | CC       |
| FBN1   | rs137854460  | CC       |
| FBN1   | rs137854477  | CC       |
| FBN1   | rs267606800  | CC       |
| FBN1   | rs193922183  | AA       |
| FBN1   | rs112660651  | CC       |
| FBN1   | rs193922209  | CC       |
| FBN1   | rs149062442  | CC       |
| FBN1   | rs193922243  | CC       |
| FBN1   | rs397515764  | CC       |
| FBN1   | rs397515773  | AA       |
| FBN1   | rs397515775  | CC       |
| FBN1   | rs397515784  | GG       |
| FBN1   | rs397515789  | CC       |
| FBN1   | rs397515827  | CC       |
| FBN1   | rs397515828  | CC       |
| FBN1   | rs587782947  | CC       |
| FBN1   | rs794728283  | GG       |
| FBN1   | rs794728281  | CC       |
| FBN1   | rs112118237  | CC       |
| FBN1   | rs794728256  | CC       |
| FBN1   | rs794728253  | AA       |
| FBN1   | rs794728247  | CC       |
| FBN1   | rs794728241  | CC       |
|        |              |          |



# Cortical dysgenesis with pontocerebellar hypoplasia due to TUBB3 mutation

A rare, genetic, non-syndromic cerebral malformation due to abnormal neuronal migration disease characterized by the association of cortical dysplasia and pontocerebellar hypoplasia, manifesting with global developmental delay, mild to severe intellectual disability, axial hypotonia, strabismus, nystagmus and, occasionally, optic nerve hypoplasia. Brain imaging reveals variable malformations, including frontally predominant microgyria, disorganization and simplification, dysmorphic hypertrophic basal ganglia, cerebellar vermis dysplasia, brainstem/corpus callosum hypoplasia, and/or olfactory bulbs agenesis.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TUBB3 | rs747480526 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## X-linked complicated corpus callosum dysgenesis

A congenital, X-linked, clinical subtype of L1 syndrome, characterized by variable spastic paraplegia, mild to moderate intellectual disability, and dysplasia, hypoplasia or aplasia of the corpus callosum. In this subtype hydrocephalus, adducted thumbs, or absent speech are not observed.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| L1CAM | rs797045673 | GG       |
| L1CAM | rs367665974 | CC       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Postaxial acrofacial dysostosis

A rare acrofacial dysostosis that is characterized by mandibular and malar hypoplasia, small and cup-shaped ears, lower lid ectropion, and symmetrical postaxial limb deficiencies with absence of the fifth digital rays and ulnar hypoplasia.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| DHODH | rs201947120 | CC       |
| DHODH | rs201230446 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Acromicric dysplasia

A rare bone dysplasia characterized by short stature, short hands and feet, mild facial dysmorphism, and characteristic X-ray abnormalities of the hands.

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| FBN1 | rs1131692052 | AA       |
| FBN1 | rs387906626  | TT       |
| FBN1 | rs1064797059 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Cerebrofaciothoracic dysplasia

Cerebro-facio-thoracic dysplasia or Pascual-Castroviejo syndrome type 1 is a rare syndrome characterized by facial dysmorphism, intellectual deficit and costovertebral abnormalities.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TMCO1 | rs372701032 | CC       |
| TMCO1 | rs765824628 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## FGFR2-related bent bone dysplasia

FGFR2-related bent bone dysplasia is a rare, genetic, lethal, primary bone dysplasia characterized by dysmorphic craniofacial features (low-set, posteriorly rotated ears, hypertelorism, megalophtalmos, flattened and hypoplastic midface, micrognathia), hypomineralization of the calvarium, craniosynostosis, hypoplastic clavicles and pubis, and bent long bones (particularly involving the femora), caused by germline mutations in the FGFR2 gene. Prematurely erupted fetal teeth, osteopenia, hirsutism, clitoromegaly, gingival hyperplasia, and hepatosplenomegaly with extramedullary hematopoesis may also be associated.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FGFR2 | rs387906678 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Craniofrontonasal dysplasia

A rare X-linked malformation syndrome characterized by craniofacial abnormalities, grooved nails, intellectual disability and various skeletal and soft tissue abnormalities.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| EFNB1 | rs104894801 | CC       |
| EFNB1 | rs104894804 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Non-epidermolytic palmoplantar keratoderma

Kniest dysplasia is a severe type II collagenopathy characterized by a short trunk and limbs, prominent joints and midface hypoplasia (round face with a flat nasal root).

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL2A1 | rs121912877 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Singleton-Merten dysplasia

Singleton-Merten dysplasia is characterized by dental dysplasia, progressive calcification of the thoracic aorta with stenosis, osteoporosis and expansion of the marrow cavities in hand bones. Additional features included generalized muscle weakness and atrophy, and chronic psoriasiform skin eruptions. It has been reported in four unrelated patients (male and female) and in a family with multiple affected members (male).

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| IFIH1 | rs376048533 | CC       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Diastrophic dysplasia

A rare disorder marked by short stature with short extremities (final adult height is 120cm +/- 10cm), and joint malformations leading to multiple joint contractures (principally involving the shoulders, elbows, interphalangeal joints and hips).

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC26A2 | rs104893919 | CC       |
| SLC26A2 | rs386833492 | TT       |
| SLC26A2 | rs386833493 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Hidrotic ectodermal dysplasia

Clouston syndrome (or hidrotic ectodermal dysplasia) is characterised by the clinical triad of nail dystrophy, alopecia, and palmoplantar hyperkeratosis.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GJB6 | rs104894415 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Hypohidrotic ectodermal dysplasia

A rare genetic ectodermal dysplasia syndrome characterized by sparse hair, abnormal or missing teeth, decrease or absent sudation and typical facial features.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| EDAR | rs121908452 | GG       |
| EDAR | rs121908453 | CC       |
| EDAR | rs747806672 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Multiple epiphyseal dysplasia, Beighton type

A rare primary bone dysplasia characterized by the association of multiple epiphyseal dysplasia, visual impairment (with early-onset progressive myopia, retinal thinning, and cataracts), and conductive hearing loss. Patients are of short stature and present brachydactyly, genu valgus deformity, and joint pain.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1053 | rs121912882 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Spondyloepiphyseal dysplasia congenita

Spondyloepiphyseal dysplasia congenita (SEDC) is a chondrodysplasia characterized by disproportionate short stature, abnormal epiphyses and flattened vertebral bodies.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL2A1 | rs121912870 | CC       |
| COL2A1 | rs121912874 | GG       |
| COL2A1 | rs864621973 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Spondyloepimetaphyseal dysplasia, PAPSS2 type

Spondyloepimetaphyseal dysplasia (SEMD), Pakistani type is characterized by short stature, short and bowed lower limbs, mild brachydactyly, kyphoscoliosis, abnormal gait, enlarged knee joints, precocious osteoarthropathy, and normal intelligence.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| PAPSS2 | rs121908952 | CC       |
| PAPSS2 | rs201203612 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Spondyloepiphyseal dysplasia, Stanescu type

A rare spondyloepiphyseal dysplasia characterized by progressive joint contractures with premature degenerative joint disease, particularly in the knee, hip, and finger joints. Patients are of normal height and present with gait problems, joint pain, and enlarged joints with joint restriction and contractures. Radiological features include generalized platyspondyly, hypoplastic ilia, epiphyseal flattening with metaphyseal splaying of the tubular bones, and broad, elongated femoral necks with marked coxa valga. Histopathologic examination of cartilage shows PAS-positive cytoplasmic inclusion bodies in chondrocytes.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL2A1 | rs869312907 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Spondyloepimetaphyseal dysplasia with multiple dislocations

Spondyloepimetaphyseal dysplasia with multiple dislocations is a rare genetic primary bone dysplasia disorder characterized by midface hypoplasia, short stature, generalized joint laxity, multiple joint dislocations (most frequently of knees and hips), limb malalignment (genu valgum/varum) and progressive spinal deformity (e.g. kyphosis/scoliosis). Radiography reveals distinctive slender metacarpals and metatarsals, as well as small, irregular epiphyses, metaphyseal irregularities with vertical striations, constricted femoral necks and mild platyspondyly, among others.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KIF22 | rs193922921 | CC       |
| KIF22 | rs193922922 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Spondyloepimetaphyseal dysplasia congenita, Strudwick type

Spondyloepimetaphyseal dysplasia congenita, Strudwick type is characterized by disproportionate short stature from birth (with a very short trunk and shortened limbs) and skeletal abnormalities (lordosis, scoliosis, flattened vertebrae, pectus carinatum, coxa vara, clubfoot, and abnormal epiphyses or metaphyses).

Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL2A1 | rs121912880 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Acromelic frontonasal dysplasia

A rare frontonasal dysplasia characterized by distinct craniofacial (large fontanelle, hypertelorism, bifid nasal tip, nasal clefting, brachycephaly, median cleft face, carpshaped mouth), brain (interhemispheric lipoma, agenesis of the corpus callosum), and limb (tibial hypoplasia/aplasia, club foot, symmetric preaxial polydactyly of the feet and bilateral clubbed and thickened nails of halluces) malformations as well as intellectual disability. Other manifestations sometimes reported include absent olfactory bulbs, hypopituitarism and cryptorchidism.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| ZSWIM6 | rs587777695 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Gnathodiaphyseal dysplasia**

Gnathodiaphyseal dysplasia (GDD) is a bone dysplasia characterized by bone fragility, frequent bone fractures at a young age, cemento-osseous lesions of the jaw bones, bowing of tubular bones (tibia and fibula) and diaphyseal sclerosis of long bones associated with generalized osteopenia. GD follows an autosomal dominant mode of transmission.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ANO5 | rs142027093 | GG       |
| ANO5 | rs749645231 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Schimke immuno-osseous dysplasia

A rare a multisystem disorder characterized by spondyloepiphyseal dysplasia and disproportionate short stature, facial dysmorphism, T-cell immunodeficiency, and progressive, proteinuric steroid-resistant nephropathy.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SMARCAL | rs119473033 | GG       |
| SMARCAL | rs119473037 | CC       |
| SMARCAL | rs119473038 | CC       |
| SMARCAL | rs267607071 | GG       |
| SMARCAL | rs864309531 | GG       |
| SMARCAL | rs761546902 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Odonto-onycho-dermal dysplasia

A rare, genetic, ectodermal dysplasia syndrome characterized by dental abnormalities (primarily agenesis of the permanent and deciduous teeth with cone-shaped incisors and canines), onychodysplasia, palmoplantar hyperkeratosis, dry skin and, more variably, hypotrichosis, and sweat gland dysfunction (hyper- or hypohidrosis).

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| WNT10A | rs121908118 | GG       |
| WNT10A | rs121908121 | GG       |
| WNT10A | rs762739726 | CC       |
| WNT10A | rs377416834 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Otospondylomegaepiphyseal dysplasia

Otospondylomegaepiphyseal dysplasia (OSMED) is an inborn error of cartilage collagen formation characterized by sensorineural hearing loss, enlarged epiphyses, skeletal dysplasia with disproportionately short limbs, vertebral body anomalies and a characteristic facies.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| COL11A2 | rs121912945 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Thanatophoric dysplasia

A primary bone dysplasia with micromelia characterized by micromelia, macrocephaly, narrow thorax, and distinctive facial features. It includes TD, type 1 (TD1) and TD, type 2 (TD2), that can be differentiated from each other by femur and skull shape.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FGFR3 | rs121913479 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## FLNA-related X-linked myxomatous valvular dysplasia

A rare genetic cardiac malformation characterized by progressive myxomatous degeneration predominantly of the mitral valve (but not uncommonly with multivalvular involvement), presenting as valve thickening and dysfunction with variable stenosis, prolapse, and/or regurgitation, and potentially resulting in lethal heart failure. Hyperextensible skin and joint hypermobility have been reported in some patients. Hemizygous males display a more severe phenotype than heterozygous females.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FLNA | rs267606815 | GG       |
| FLNA | rs797045044 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Familial isolated arrhythmogenic right ventricular dysplasia

Familial isolated arrhythmogenic right ventricular dysplasia (ARVC) is the familial autosomal dominant form of ARVC (see this term), a heart muscle disease characterized by life-threatening ventricular arrhythmias with left bundle branch block configuration that may manifest with palpitations, ventricular tachycardia, syncope and sudden fatal attacks, and that is due to dystrophy and fibro-fatty replacement of the right ventricular myocardium that may lead to right ventricular aneurysms.

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| DSP  | rs397516915  | CC       |
| DSP  | rs397516940  | CC       |
| DSP  | rs397516943  | CC       |
| DSP  | rs397516955  | GG       |
| DSP  | rs727504443  | GG       |
| DSP  | rs767643821  | CC       |
| DSP  | rs770873593  | CC       |
| DSP  | rs794728124  | CC       |
| DSP  | rs141026028  | CC       |
| DSP  | rs886039178  | CC       |
| DSP  | rs886039343  | CC       |
| DSP  | rs1060500618 | CC       |
| DSP  | rs746877365  | CC       |
| DSP  | rs1060500609 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Dopa-responsive dystonia due to sepiapterin reductase deficiency

Dopa-responsive dystonia (DRD) due to sepiapterin reductase deficiency (SRD) is a very rare neurometabolic disorder characterized by dystonia with diurnal fluctuations, axial hypotonia, oculogyric crises, and delays in motor and cognitive development.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SPR  | rs104893665 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Early-onset generalized limb-onset dystonia

A rare movement disorder characterized by involuntary, repetitive, sustained muscle contractions or postures that typically begins in a single limb and, in most individuals, followed by progressive involvement of other limbs and the trunk, typically sparing the cranial and cervical region.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TOR1A | rs760768475 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Adult-onset dystonia-parkinsonism

A rare neurodegenerative disease usually presenting before the age of 30 and which is characterized by dystonia, Ldopa-responsive parkinsonism, pyramidal signs and rapid cognitive decline.

### Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| BAIAP2L2 | rs121908686 | CC       |
| BAIAP2L2 | rs121908687 | GG       |
| PLA2G6   | rs199935023 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Reis Bücklers corneal dystrophy

Reis Bücklers corneal dystrophy (RBCD), also known as granular corneal dystrophy type III, is a rare form of superficial corneal dystrophy characterized by bilateral symmetrical reticular opacities in the superficial central cornea, with progressive visual impairment.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TGFBI | rs121909211 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Granular corneal dystrophy type II

Type II granular corneal dystrophy (GCDII) is a rare form of stromal corneal dystrophy characterized by irregular-shaped well-demarcated granular deposits in the superficial central corneal stroma, and progressive visual impairment.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TGFBI | rs121909211 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Granular corneal dystrophy type I

Type I granular corneal dystrophy (GCDI) is a rare form of stromal corneal dystrophy characterized by multiple small deposits in the superficial central corneal stroma, and progressive visual impairment, which may sometimes be severe.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TGFBI | rs121909210 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Lattice corneal dystrophy type I

Type I lattice corneal dystrophy (LCDI) is a frequent form of stromal corneal dystrophy characterized by a network of delicate interdigitating branching filamentous opacities within the cornea with progressive visual impairment and no systemic manifestations.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TGFBI | rs121909210 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Bietti crystalline dystrophy

Bietti's crystalline dystrophy (BCD) is a rare progressive autosomal recessive tapetoretinal degeneration disease, occurring in the third decade of life, characterized by small sparkling crystalline deposits in the posterior retina and corneal limbus in addition to sclerosis of the choroidal vessels and manifesting as nightblindness, decreased vision, paracentral scotoma, and, in the end stages of the disease, legal blindness.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CYP4V2 | rs119103283 | TT       |
| CYP4V2 | rs199476183 | AA       |
| CYP4V2 | rs199476203 | GG       |
| CYP4V2 | rs199476204 | CC       |
| CYP4V2 | rs199476189 | GG       |
| CYP4V2 | rs199476197 | AA       |
| CYP4V2 | rs369063468 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Congenital hereditary endothelial dystrophy type II

Congenital hereditary endothelial dystrophy II (CHED II) is a rare subtype of posterior corneal dystrophy characterized by a diffuse ground-glass appearance of the corneas and marked corneal thickening from birth with nystagmus, and blurred vision.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC4A11 | rs121909388 | GG       |
| SLC4A11 | rs121909392 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Benign concentric annular macular dystrophy

Benign concentric annular macular dystrophy (BCAMD) is a progressive autosomal dominant macular dystrophy characterized by parafoveal hypopigmentation followed by a retinitis pigmentosa-like phenotype (nyctalopia and peripheral vision loss) with a bullís eye configuration.

### Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| ABCA4 | rs61749423 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Congenital muscular dystrophy with cerebellar involvement

Congenital muscular dystrophy with cerebellar involvement is a rare, congenital muscular dystrophy due to dystroglycanopathy characterized by proximal muscle weakness with a tendency for muscle hypertrophy and pseudohypertrophy, variable cognitive impairment, microcephaly, cerebellar hypoplasia with or without cysts, and other structural brain anomalies.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FKRP | rs104894681 | CC       |
| FKRP | rs28937903  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Congenital muscular dystrophy with integrin alpha-7 deficiency

Congenital muscular dystrophy with integrin alpha-7 deficiency is a rare, genetic, congenital muscular dystrophy due to extracellular matrix protein anomaly characterized by early motor development delay and muscle weakness with mild elevation of serum creatine kinase, that may be followed by progressive disease course with predominantly proximal muscle weakness and atrophy, motor development regress, scoliosis and respiratory insufficiency.

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| ITGA7 | rs17854600 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Congenital muscular dystrophy, Ullrich type

Ullrich congenital muscular dystrophy (UCMD) is characterized by early-onset, generalized and slowly progressive muscle weakness, multiple proximal joint contractures, marked hypermobility of the distal joints and normal intelligence.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL6A3 | rs398124119 | GG       |
| COL6A3 | rs398124126 | CC       |
| COL6A3 | rs398124128 | CC       |

#### Multivariate analysis

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Congenital muscular dystrophy due to LMNA mutation

A rare congenital muscular dystrophy characterized by prominent axial hypotonia, predominantly proximal muscle weakness in upper limbs and distal in lower limbs, joint contractures (initially distal, later proximal), spinal rigidity, and progressive respiratory insufficiency, in the presence of moderately elevated serum creatine kinase. Cardiac arrhythmias and sudden death have also been reported.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| LMNA | rs121912496 | CC       |
| LMNA | rs60458016  | GG       |
| LMNA | rs267607632 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Becker muscular dystrophy**

A rare, genetic muscular dystrophy characterized by progressive muscle wasting and weakness due to degeneration of skeletal, smooth and cardiac muscle.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DMD  | rs5030730   | GG       |
| DMD  | rs398122853 | CC       |
| DMD  | rs398123935 | GG       |
| DMD  | rs398124002 | AA       |
| DMD  | rs373286166 | CC       |
| DMD  | rs794727666 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Autosomal dominant limb-girdle muscular dystrophy type 1A

A rare subtype of autosomal dominant limb girdle muscular dystrophy characterized by an adult onset of proximal shoulder and hip girdle weakness (that later progresses to include distal weakness), nasal speech and dysarthria. Other frequent findings include tightened heel cords, reduced deep-tendon reflexes and elevated creatine kinase serum levels. Respiratory failure, as well as mild facial weakness and dysphagia, may also be observed.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| MYOT   | rs121908457 | CC       |
| PKD2L2 | rs28937597  | CC       |
| PKD2L2 | rs121908458 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## DNAJB6-related limb-girdle muscular dystrophy D1

A subtype of autosomal dominant limb-girdle muscular dystrophy characterized by an adult-onset of slowly progressive, proximal pelvic girdle weakness, with none, or only minimal, shoulder girdle involvement, and absence of cardiac and respiratory symptoms. Mild to moderate elevated creatine kinase serum levels and gait abnormalities are frequently observed.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| DNAJB6 | rs149278319 | CC       |
| DNAJB6 | rs387907150 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Calpain-3-related limb-girdle muscular dystrophy R1

A subtype of autosomal recessive limb girdle muscular dystrophy characterized by a variable age of onset of progressive, typically symmetrical and selective weakness and atrophy of proximal shoulder- and pelvic-girdle muscles (gluteus maximus, thigh adductors, and muscles of the posterior compartment of the limbs are most commonly affected) without cardiac or facial involvement. Clinical manifestations include exercise intolerance, a waddling gait, scapular winging and calf pseudo-hypertrophy.

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=267

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| CAPN3   | rs80338802  | GG       |
| CAPN3   | rs121434544 | GG       |
| CAPN3   | rs121434547 | CC       |
| CAPN3   | rs121434548 | GG       |
| CAPN3   | rs201736037 | AA       |
| CAPN3   | rs149095128 | CC       |
| CAPN3   | rs587780290 | GG       |
| CAPN3   | rs727503839 | GG       |
| CAPN3   | rs141656719 | CC       |
| CAPN3   | rs794726871 | CC       |
| CAPN3   | rs557164942 | CC       |
| CAPN3   | rs147774793 | CC       |
| CAPN3   | rs778768583 | GG       |
| CAPN3   | rs774048743 | GG       |
| CAPN3   | rs374665929 | AA       |
| CAPN3   | rs863224956 | GG       |
| CAPN3   | rs863224957 | CC       |
| CAPN3   | rs863224959 | CC       |
| CAPN3   | rs863224960 | GG       |
| CAPN3   | rs863224961 | GG       |
| CAPN3   | rs863224962 | AA       |
| CAPN3   | rs761211705 | GG       |
| CAPN3   | rs776043976 | CC       |
| CAPN3   | rs149914792 | GG       |
| CAPN3   | rs369552114 | GG       |
| CAPN3   | rs199806879 | CC       |
| CAPN3   | rs200379491 | AA       |
| DYSF    | rs727503915 | GG       |
| LOC1053 | rs863224964 | GG       |
| LOC1053 | rs878854364 | CC       |



## Titin-related limb-girdle muscular dystrophy R10

A form of limb-girdle muscular dystrophy that usually has a childhood onset (but can range from the first to third decade of life) of severe progressive proximal weakness, eventually involving the distal muscles. Some patients may remain ambulatory but most are wheelchair dependant 20 years after onset.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| TTN     | rs397517481 | СС       |
| TTN     | rs397517689 | GG       |
| TTN     | rs751746401 | GG       |
| TTN AS1 | rs397517589 | GG       |
| TTN AS1 | rs397517601 | CC       |
| TTN AS1 | rs397517624 | CC       |
| TTN AS1 | rs72646831  | GG       |
| TTN AS1 | rs72646846  | GG       |
| TTN AS1 | rs397517735 | AA       |
| TTN AS1 | rs727503586 | AA       |
| TTN AS1 | rs557312035 | GG       |
| TTN AS1 | rs574660186 | GG       |
| TTN AS1 | rs794727539 | GG       |
| TTN AS1 | rs112188483 | CC       |
| TTN AS1 | rs781540455 | GG       |
| TTN AS1 | rs794729278 | GG       |
| TTN AS1 | rs72646837  | CC       |
| TTN AS1 | rs761807131 | CC       |
| TTN AS1 | rs751502842 | GG       |
| TTN AS1 | rs565675340 | GG       |
| TTN AS1 | rs543860009 | GG       |
| TTN AS1 | rs72677247  | AA       |
| TTN AS1 | rs886038916 | GG       |
| TTN AS1 | rs886042331 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## POMT1-related limb-girdle muscular dystrophy R11

A form of limb-girdle muscular dystrophy characterized by the onset of slowly progressive proximal muscle weakness during childhood (with fatigue and difficulty running and climbing stairs) and developmental delay. Mild intellectual deficit and microcephaly, without any obvious structural brain abnormality, are found in all patients. Mild pseudohypertrophy and joint contractures of the ankles have also been reported.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| POMT1 | rs119462982 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Anoctamin-5-related limb-girdle muscular dystrophy R12

A form of limb-girdle muscular dystrophy most often characterized by an adult onset (but ranging from 11 to 51 years) of mainly proximal lower limb weakness, with difficulties standing on tiptoes being one of the initial signs. Proximal upper limb and distal lower limb weakness is also common, as well as atrophy of the quadriceps (most commonly), biceps brachii, and lower leg muscles. Calf hypertrophy has also been reported in some cases. LGMD2L progresses slowly, with most patients remaining ambulatory until late adulthood.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ANO5 | rs137854524 | CC       |
| ANO5 | rs398124625 | GG       |
| ANO5 | rs137854526 | TT       |
| ANO5 | rs372221490 | GG       |
| ANO5 | rs566415362 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## POMT2-related limb-girdle muscular dystrophy R14

A form of limb-girdle muscular dystrophy characterized by proximal weakness (manifesting as slowness in running) presenting in infancy, along with calf hypertrophy, mild lordosis, scapular winging and normal intelligence (or mild intellectual disability).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| POMT2 | rs587780423 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## GMPPB-related limb-girdle muscular dystrophy R19

A form of limb-girdle muscular dystrophy, that can present from birth to early childhood, characterized by hypotonia, microcephaly, mild proximal muscle weakness (leading to delayed walking and difficulty climbing stairs), mild intellectual disability and epilepsy. Additional manifestations reported in some patients include cataracts, nystagmus, cardiomyopathy, and respiratory insufficiency.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| GMPPB  | rs142336618 | CC       |
| RNF123 | rs199922550 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Dysferlin-related limb-girdle muscular dystrophy R2

A subtype of autosomal recessive limb-girdle muscular dystrophy characterized by an onset in late adolescence or early adulthood of slowly progressive, proximal weakness and atrophy of shoulder and pelvic girdle muscles. Cardiac and respiratory muscles are not involved. Hypertrophy of the calf muscles and highly elevated serum creatine kinase levels are frequently observed.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DYSF | rs121908955 | CC       |
| DYSF | rs121908956 | CC       |
| DYSF | rs121908963 | GG       |
| DYSF | rs786205084 | GG       |
| DYSF | rs398123763 | GG       |
| DYSF | rs398123765 | TT       |
| DYSF | rs202044973 | CC       |
| DYSF | rs398123768 | GG       |
| DYSF | rs377735262 | CC       |
| DYSF | rs140108514 | GG       |
| DYSF | rs398123787 | GG       |
| DYSF | rs398123789 | CC       |
| DYSF | rs398123794 | GG       |
| DYSF | rs373585652 | CC       |
| DYSF | rs398123800 | GG       |
| DYSF | rs201869739 | GG       |
| DYSF | rs727503911 | CC       |
| DYSF | rs201049092 | GG       |
| DYSF | rs756328339 | AA       |
| DYSF | rs370874727 | AA       |
| DYSF | rs794727636 | CC       |
| DYSF | rs766016391 | GG       |
| DYSF | rs794727851 | GG       |
| DYSF | rs141497053 | GG       |
| DYSF | rs746873768 | CC       |
| DYSF | rs369607332 | CC       |
| DYSF | rs863225021 | CC       |
| DYSF | rs150877497 | GG       |
| DYSF | rs746315830 | CC       |
| DYSF | rs199543257 | CC       |
|      |             |          |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Alpha-sarcoglycan-related limb-girdle muscular dystrophy R3

A subtype of autosomal recessive limb-girdle muscular dystrophy characterized by childhood onset of progressive proximal weakness of the shoulder and pelvic girdle muscles, resulting in difficulty walking, scapular winging, calf hypertrophy and contractures of the Achilles tendon, which lead to a tiptoe gait pattern. Cardiac and respiratory involvement is rare.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1053 | rs137852621 | GG       |
| LOC1053 | rs28933693  | CC       |
| LOC1053 | rs371675217 | GG       |
| LOC1053 | rs768814872 | TT       |
| LOC1053 | rs758647756 | CC       |
| LOC1053 | rs138945081 | CC       |
| SGCA    | rs137852623 | CC       |
| SGCA    | rs143570936 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Beta-sarcoglycan-related limb-girdle muscular dystrophy R4

A subtype of autosomal recessive limb girdle muscular dystrophy characterized by a childhood to adolescent onset of progressive pelvic- and shoulder-girdle muscle weakness, particularly affecting the pelvic girdle (adductors and flexors of hip). Usually the knees are the earliest and most affected muscles. In advanced stages, involvement of the shoulder girdle (resulting in scapular winging) and the distal muscle groups are observed. Calf hypertrophy, cardiomyopathy, respiratory impairment, tendon contractures, scoliosis, and exercise-induced myoglobinuria may be observed.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SGCB | rs28936383  | GG       |
| SGCB | rs104893868 | AA       |
| SGCB | rs104893869 | CC       |
| SGCB | rs150518260 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Gamma-sarcoglycan-related limb-girdle muscular dystrophy R5

A subtype of autosomal recessive limb-girdle muscular dystrophy characterized by a childhood onset of progressive shoulder and pelvic girdle muscle weakness and atrophy frequently associated with calf hypertrophy, diaphragmatic weakness, and/or variable cardiac abnormalities. Mild to moderate elevated serum creatine kinase levels and positive Gowers sign are reported.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1079 | rs104894422 | GG       |
| LOC1079 | rs104894423 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Telethonin-related limb-girdle muscular dystrophy R7

A mild subtype of autosomal recessive limb-girdle muscular dystrophy characterized by a variable onset (ranging from infancy to adolescence) of progressive proximal upper and lower limb muscle weakness and atrophy. Mild scapular winging, calf hypertrophy, and lack of respiratory and cardiac involvement are also observed.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TCAP | rs104894655 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## FKRP-related limb-girdle muscular dystrophy R9

A form of autosomal recessive limb-girdle muscular dystrophy that presents a highly variable age of onset and phenotypic spectrum typically characterized by slowly progressive proximal weakness of the pelvic and shoulder girdle musculature (predominantly affecting the lower limbs), frequently associated with waddling gait, scapular winging, calf and tongue hypertrophy, exercise-induced myalgia, abdominal muscle weakness, cardiomyopathy, respiratory muscle involvement, and myoglobinuria and/or elevated creatine kinase serum levels.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FKRP | rs28937900  | CC       |
| FKRP | rs104894682 | TT       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **Duchenne muscular dystrophy**

A rare, genetic, muscular dystrophy characterized by rapidly progressive muscle weakness and wasting due to degeneration of skeletal, smooth and cardiac muscle.

### Your genetic map

| Gene | SNP         | Genotyp |
|------|-------------|---------|
| DMD  | rs128625228 | GG      |
| DMD  | rs128625229 | GG      |
| DMD  | rs104894787 | GG      |
| DMD  | rs201366610 | GG      |
| DMD  | rs128626235 | GG      |
| DMD  | rs146071084 | AA      |
| DMD  | rs128626232 | GG      |
| DMD  | rs128626242 | CC      |
| DMD  | rs128626246 | CC      |
| DMD  | rs128626249 | GG      |
| DMD  | rs128626250 | GG      |
| DMD  | rs128626251 | GG      |
| DMD  | rs104894790 | GG      |
| DMD  | rs104894797 | GG      |
| DMD  | rs128627256 | GG      |
| DMD  | rs398123827 | GG      |
| DMD  | rs398123828 | CC      |
| DMD  | rs398123832 | GG      |
| DMD  | rs398123833 | GG      |
| DMD  | rs398123834 | CC      |
| DMD  | rs398123852 | GG      |
| DMD  | rs398123853 | GG      |
| DMD  | rs398123862 | CC      |
| DMD  | rs398123865 | GG      |
| DMD  | rs398123870 | GG      |
| DMD  | rs398123883 | GG      |
| DMD  | rs398123884 | CC      |
| DMD  | rs398123888 | GG      |
| DMD  | rs398123889 | CC      |
| DMD  | rs398123901 | CC      |
| DMD  | rs398123903 | GG      |
|      |             |         |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Tibial muscular dystrophy

Tibial muscular dystrophy (TMD) is a distal myopathy characterized by weakness of the muscles of the anterior compartment of lower limbs, appearing in the fourth to seventh decade of life.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| TTN AS1 | rs587780495 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Muscular dystrophy, Selcen type

Selcen type muscular dystrophy is characterized by progressive limb and axial muscle weakness associated with cardiomyopathy and severe respiratory insufficiency during adolescence. The disease manifests during childhood and progresses rapidly.

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| BAG3 | rs121918312  | CC       |
| BAG3 | rs397516881  | GG       |
| BAG3 | rs117749531  | GG       |
| BAG3 | rs869248137  | CC       |
| BAG3 | rs1057517945 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Infantile neuroaxonal dystrophy

Infantile neuroaxonal dystrophy/atypical neuroaxonal dystrophy (INAD/atypical NAD) is a type of neurodegeneration with brain iron accumulation (NBIA; see this term) characterized by psychomotor delay and regression, increasing neurological involvement with symmetrical pyramidal tract signs and spastic tetraplegia. INAD may be classic or atypical and patients present with symptoms anywhere along a continuum between the two.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| PLA2G6 | rs200075782 | GG       |
| PLA2G6 | rs587784347 | GG       |
| PLA2G6 | rs587784339 | GG       |
| PLA2G6 | rs587784327 | CC       |
| PLA2G6 | rs587784363 | CC       |
| PLA2G6 | rs587784359 | GG       |
| PLA2G6 | rs794729212 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Butterfly-shaped pigment dystrophy**

A rare patterned dystrophy of the retinal pigment epithelium characterized by abnormal accumulation of lipofuscin in a butterfly-shaped distribution at the retinal pigment epithelium level. Patients manifest with a slowly progressive loss of vision that often only becomes apparent in old age.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PRPH2 | rs121918563 | AA       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Progressive cone dystrophy

A rare retinal dystrophy characterized by photophobia, progressive loss of visual acuity, nystagmus, visual field abnormalities, abnormal color vision, and psychophysical and electrophysiological evidence of abnormal cone function. Progressive cone dystrophy usually presents in childhood or early adult life, and patients tend to develop rod photoreceptor dysfunction in later life.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PDE6C | rs762426409 | CC       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



## **Bothnia retinal dystrophy**

Bothnia retinal dystrophy is a rare form of retinal dystrophy, seen mostly in Northern Sweden, presenting in early childhood with night blindness and progressive maculopathy with a decrease in visual acuity, eventually leading to blindness by adulthood. Retinal degeneration, without obvious bone spicule formation, accompanied by affected visual fields and the typical presence of retinitis punctata albescens in the posterior pole are also noted.

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| RLBP1 | rs28933990 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Best vitelliform macular dystrophy

Best vitelliform macular dystrophy (BVMD) is a genetic macular dystrophy characterized by loss of central visual acuity, metamorphopsia and a decrease in the Arden ratio secondary to an egg yolk-like lesion located in the foveal or parafoveal region.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1079 | rs28940570  | CC       |
| LOC1079 | rs267606677 | AA       |
| LOC1079 | rs281865238 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



#### **DPM1-CDG**

The CDG (Congenital Disorders of Glycosylation) syndromes are a group of autosomal recessive disorders affecting glycoprotein synthesis. CDG syndrome type le is characterised by psychomotor delay, seizures, hypotonia, facial dysmorphism and microcephaly. Ocular anomalies are also very common.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MOCS3 | rs139624629 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Isolated ectopia lentis

Isolated ectopia lentis (IEL) is a rare, clinically variable, eye disorder characterized by dislocation of the lens, often causing significant reduction in visual acuity.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FBN1 | rs137854464 | CC       |
| FBN1 | rs137854480 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Microcephalic osteodysplastic primordial dwarfism type II

A rare bone disease and a form of microcephalic primordial dwarfism characterized by severe pre- and postnatal growth retardation, with marked microcephaly in proportion to body size, skeletal dysplasia, abnormal dentition, insulin resistance, and increased risk for cerebrovascular disease.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PCNT | rs119479063 | GG       |
| PCNT | rs181690344 | CC       |
| PCNT | rs587784308 | GG       |
| PCNT | rs369195346 | GG       |
| PCNT | rs587784321 | CC       |
| PCNT | rs151020551 | CC       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Mitochondrial neurogastrointestinal encephalomyopathy

Mitochondrial NeuroGastroIntestinal Encephalomyopathy (MNGIE) syndrome is characterized by the association of gastrointestinal dysmotility, peripheral neuropathy, chronic progressive external ophthalmoplegia and leukoencephalopathy.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SCO2 | rs121913039 | CC       |
| TYMP | rs863224255 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



## KCNQ2-related epileptic encephalopathy

KCNQ2-related epileptic encephalopathy is a severe form of neonatal epilepsy that usually manifests in newborns during the first week of life with seizures (that affect alternatively both sides of the body), often accompanied by clonic jerking or more complex motor behavior, as well as signs of encephalopathy such as diffuse hypotonia, limb spasticity, lack of visual fixation and tracking and mild to moderate intellectual deficiency. The severity can range from controlled to intractable seizures and mild/moderate to severe intellectual disability.

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=439218

## Your genetic map

| Gene    | SNP          | Genotype |
|---------|--------------|----------|
| KCNQ2   | rs74315392   | GG       |
| KCNQ2   | rs587777219  | GG       |
| KCNQ2   | rs727503974  | GG       |
| KCNQ2   | rs794727740  | CC       |
| KCNQ2   | rs794727813  | CC       |
| KCNQ2   | rs796052643  | GG       |
| KCNQ2   | rs796052626  | GG       |
| KCNQ2   | rs796052621  | CC       |
| KCNQ2   | rs796052620  | AA       |
| KCNQ2   | rs864321707  | GG       |
| KCNQ2   | rs886041262  | CC       |
| KCNQ2   | rs1057516095 | GG       |
| KCNQ2   | rs1057516094 | GG       |
| KCNQ2   | rs796052618  | CC       |
| LOC1053 | rs796052645  | CC       |
| LOC1053 | rs796052655  | CC       |
| LOC1053 | rs796052653  | CC       |
| LOC1053 | rs796052652  | GG       |
| LOC1053 | rs118192234  | CC       |



# Early infantile epileptic encephalopathy

A severe form of age-related epileptic encephalopathies characterized by the onset of tonic spasms within the first 3 months of life that can be generalized or lateralized, independent of the sleep cycle, and that can occur hundreds of times per day, leading to psychomotor impairment and death.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| GNAO1 | rs797044878 | GG       |
| GNAO1 | rs797044951 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# **Ethylmalonic encephalopathy**

Ethylmalonic acid encephalopathy (EE) is defined by elevated excretion of ethylmalonic acid (EMA) with recurrent petechiae, orthostatic acrocyanosis and chronic diarrhoea associated with neurodevelopmental delay, psychomotor regression and hypotonia with brain magnetic resonance imaging (MRI) abnormalities.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ETHE1 | rs28940289  | GG       |
| ETHE1 | rs863223954 | TT       |
| ETHE1 | rs745656120 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Severe neonatal-onset encephalopathy with microcephaly

Severe neonatal-onset encephalopathy with microcephaly is a rare monogenic disease with epilepsy characterized by neonatal-onset encephalopathy, microcephaly, severe developmental delay or absent development, breathing abnormalities (including central hypoventilation and/or respiratory insufficiency), intractable seizures, abnormal muscle tone and involuntary movements. Early death is usual.

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| MECP2 | rs61754437 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Encephalopathy due to sulfite oxidase deficiency

Encephalopathy due to sulfite oxidase deficiency is a rare neurometabolic disorder characterized by seizures, progressive encephalopathy and lens dislocation.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MOCS1 | rs104893969 | CC       |
| MOCS1 | rs104893970 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Glycine encephalopathy

Glycine encephalopathy (GE) is an inborn error of glycine metabolism characterized by accumulation of glycine in body fluids and tissues, including the brain, resulting in neurometabolic symptoms of variable severity.

# Multivariate analysis

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=407

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| AMT    | rs121964984 | CC       |
| AMT    | rs121964985 | CC       |
| AMT    | rs386833690 | CC       |
| AMT    | rs797045082 | CC       |
| GLDC   | rs121964974 | CC       |
| GLDC   | rs386833549 | CC       |
| GLDC   | rs121964979 | GG       |
| GLDC   | rs121964980 | CC       |
| GLDC   | rs386833517 | GG       |
| GLDC   | rs386833536 | TT       |
| GLDC   | rs386833555 | TT       |
| GLDC   | rs386833560 | GG       |
| GLDC   | rs386833576 | GG       |
| GLDC   | rs386833585 | GG       |
| GLDC   | rs386833587 | GG       |
| GLDC   | rs772871471 | GG       |
| GLDC   | rs149070244 | CC       |
| GLDC   | rs191905539 | CC       |
| GLDC   | rs188269735 | AA       |
| NICN1  | rs386833679 | GG       |
| PCDH19 | rs796052815 | GG       |



# STAT3-related early-onset multisystem autoimmune disease

A rare, genetic, lymphoproliferative syndrome characterized by early onset recurrent infections, lymphadenopathy with hepatosplenomegaly and variable autoimmune disorders, including hemolytic anemia, thrombocytopenia, neutropenia, enteropathy, type I diabetes, scleroderma, arthritis, atopic dermatitis, and inflammatory lung disease. Patients commonly have failure to thrive. Variable immunologic findings include decreased regulatory T-cells, hypogammaglobulinemia, and reduction in memory B cells.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| STAT3 | rs869312892 | GG       |
| STAT3 | rs869312894 | CC       |
| STAT3 | rs869312889 | GG       |
| STAT3 | rs869312887 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



## Central core disease

Central core disease (CCD) is an inherited neuromuscular disorder characterised by central cores on muscle biopsy and clinical features of a congenital myopathy.

## Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| RYR1 | rs28933396   | GG       |
| RYR1 | rs118192166  | AA       |
| RYR1 | rs118192143  | CC       |
| RYR1 | rs118192133  | GG       |
| RYR1 | rs118192156  | TT       |
| RYR1 | rs118192136  | GG       |
| RYR1 | rs118192183  | GG       |
| RYR1 | rs118192139  | AA       |
| RYR1 | rs118192147  | CC       |
| RYR1 | rs118192123  | TT       |
| RYR1 | rs118192131  | TT       |
| RYR1 | rs118192138  | TT       |
| RYR1 | rs118192124  | CC       |
| RYR1 | rs118192122  | GG       |
| RYR1 | rs118192178  | CC       |
| RYR1 | rs118192125  | GG       |
| RYR1 | rs118192180  | CC       |
| RYR1 | rs118192150  | CC       |
| RYR1 | rs118192184  | AA       |
| RYR1 | rs118192154  | GG       |
| RYR1 | rs118192134  | CC       |
| RYR1 | rs193922884  | CC       |
| RYR1 | rs113928116  | GG       |
| RYR1 | rs113460156  | GG       |
| RYR1 | rs1456276440 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Juvenile neuronal ceroid lipofuscinosis

Juvenile neuronal ceroid lipofuscinoses (JNCLs) are a genetically heterogeneous group of neuronal ceroid lipofuscinoses (NCLs; see this term) typically characterized by onset at early school age with vision loss due to retinopathy, seizures and the decline of mental and motor capacities.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CLN3 | rs386833694 | GG       |
| CLN3 | rs386833695 | CC       |
| CLN3 | rs386833744 | CC       |
| CLN3 | rs796052335 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



#### Addison disease

A chronic and rare endocrine disorder due to autoimmune destruction of the adrenal cortex and resulting in a glucocorticoid and mineralocorticoid deficiency. Properly speaking, it designates autoimmune adrenalitis, but it is a term commonly used to describe any form of chronic primary adrenal insufficiency (CPAI).

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ABCD1 | rs128624225 | CC       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



## Alexander disease

A rare neurodegenerative disorder of the astrocytes comprised of two clinical forms: Alexander disease (AxD) type I and type II manifesting with various degrees of macrocephaly, spasticity, ataxia and seizures and leading to psychomotor regression and death.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GFAP | rs58064122  | GG       |
| GFAP | rs59565950  | CC       |
| GFAP | rs59793293  | GG       |
| GFAP | rs61622935  | GG       |
| GFAP | rs58075601  | CC       |
| GFAP | rs797044590 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Glycogen storage disease due to glycogen debranching enzyme deficiency

Glycogen debranching enzyme (GDE) deficiency, or glycogen storage disease type 3 (GSD 3), is a form of glycogen storage disease characterized by severe muscle weakness and hepatopathy.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| AGL  | rs113994126 | CC       |
| AGL  | rs113994129 | GG       |
| AGL  | rs369973784 | AA       |
| AGL  | rs199922945 | GG       |
| AGL  | rs113994128 | CC       |
| AGL  | rs267606640 | GG       |
| AGL  | rs113994130 | CC       |
| AGL  | rs113994131 | CC       |
| AGL  | rs771961377 | CC       |
| AGL  | rs370792293 | AA       |
| AGL  | rs193186112 | CC       |
| AGL  | rs794729208 | TT       |
| AGL  | rs201201443 | GG       |
| AGL  | rs775498547 | CC       |
|      |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Glycogen storage disease due to glycogen branching enzyme deficiency

Glycogen branching enzyme (GBE) deficiency (Andersen's disease or amylopectinosis), or glycogen storage disease type 4 (GSD4), is a rare and severe form of glycogen storage disease which accounts for approximately 3% of all the glycogen storage diseases (see these terms).

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GBE1 | rs80338671  | TT       |
| GBE1 | rs80338672  | GG       |
| GBE1 | rs137852887 | AA       |
| GBE1 | rs80338673  | CC       |
| GBE1 | rs201958741 | CC       |
| GBE1 | rs192044702 | AA       |
| GBE1 | rs766935302 | GG       |
| GBE1 | rs781198373 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Glycogen storage disease due to muscle phosphofructokinase deficiency

Muscle phosphofructokinase (PFK) deficiency (Tarui's disease), or glycogen storage disease type 7 (GSD7), is a rare form of glycogen storage disease characterized by exertional fatigue and muscular exercise intolerance. It occurs in childhood.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| MIR6505 | rs202143236 | GG       |
| MIR6505 | rs138893744 | CC       |
| PFKM    | rs121918193 | GG       |
| PFKM    | rs746348793 | GG       |
| PFKM    | rs770066278 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Glycogen storage disease due to phosphoglycerate mutase deficiency

Muscle phosphoglycerate mutase deficiency (PGAMD) is a metabolic myopathy characterised by exercise-induced cramp, myoglobinuria, and presence of tubular aggregates in the muscle biopsy. Serum creatine kinase (CK) levels are increased between episodes of myoglobinuria. Less than 50 cases have been described so far. The disease is due to an anomaly in one of the last steps of glycolysis. The enzymatic defect in PGAMD is caused by mutations in the cDNA coding for the M-isoform of PGAM. Residual PGAM activity in the muscles of patients (2%-6%) is due to activity of the Bisoform. Transmission is autosomal recessive. Differential diagnosis includes muscle phosphorylase deficiency (McArdle disease) and phosphofructokinase deficiency (PFKD) (see these terms).

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PGAM2 | rs10250779  | CC       |
| PGAM2 | rs104894030 | TT       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Glycogen storage disease due to liver phosphorylase kinase deficiency

Glycogen storage disease (GSD) due to liver phosphorylase kinase (PhK) deficiency is a benign inborn error of glycogen metabolism characterized by hepatomegaly, growth retardation, and mild delay in motor development during childhood.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| РНКА2 | rs137852290 | CC       |
| РНКА2 | rs137852291 | TT       |
| PHKA2 | rs137852292 | GG       |
| PHKA2 | rs137852294 | GG       |
| PHKA2 | rs797044877 | CC       |
| PHKA2 | rs137852293 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Glycogen storage disease due to liver and muscle phosphorylase kinase deficiency

A benign inborn error of glycogen metabolism. It is the mildest form of GSD due to PhK deficiency.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| РНКВ | rs371296953 | GG       |
| РНКВ | rs535749057 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Glycogen storage disease due to liver glycogen phosphorylase deficiency

Liver phosphorylase deficiency, or glycogen storage disease type 6b (Hers' disease, GSD 6b) is a benign and rare form of glycogen storage disease.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PYGL | rs113993982 | CC       |
| PYGL | rs113993981 | CC       |
| PYGL | rs113993973 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Glycogen storage disease due to muscle glycogen phosphorylase deficiency

Myophosphorylase deficiency (McArdle's disease), or glycogen storage disease type 5 (GSD5), is a severe form of glycogen storage disease characterized by exercise intolerance.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| PYGM    | rs119103251 | CC       |
| PYGM    | rs119103252 | TT       |
| PYGM    | rs144081869 | CC       |
| PYGM    | rs267606993 | TT       |
| PYGM    | rs119103259 | CC       |
| PYGM    | rs398124208 | CC       |
| PYGM    | rs398124209 | GG       |
| PYGM    | rs527236146 | GG       |
| PYGM    | rs771427957 | CC       |
| RASGRP2 | rs119103258 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# Glycogen storage disease due to hepatic glycogen synthase deficiency

A genetically inherited anomaly of glycogen metabolism and a form of glycogen storage disease (GSD) characterized by fasting hypoglycemia. This is not a glycogenosis, strictly speaking, as the enzyme deficiency decreases glycogen reserves.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GYS2 | rs121918419 | GG       |
| GYS2 | rs121918421 | CC       |
| GYS2 | rs150382575 | GG       |
| GYS2 | rs201157731 | GG       |
| GYS2 | rs146195866 | GG       |
| GYS2 | rs372079212 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# **Caffey disease**

Caffey disease is an osteosclerotic dysplasia characterized by acute inflammation with massive subperiosteal new bone formation usually involving the diaphyses of the long bones, as well as the ribs, mandible, scapulae, and clavicles. The disease is associated with fever, irritability pain and soft tissue swelling, with onset around the age of 2 months and resolving spontaneously by the age of 2 years. However, prenatal disease onset has also been described.

# Your genetic map

| Gene   | SNP        | Genotype |
|--------|------------|----------|
| COL1A1 | rs72653170 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



#### Canavan disease

Canavan disease (CD) is a neurodegenerative disorder; its spectrum varies between severe forms with leukodystrophy, macrocephaly and severe developmental delay, and a very rare mild/juvenile form characterized by mild developmental delay.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SPATA22 | rs28940279  | AA       |
| SPATA22 | rs28940574  | CC       |
| SPATA22 | rs104894552 | AA       |
| SPATA22 | rs104894553 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# **Autosomal dominant Charcot-Marie-Tooth disease type 2A2**

A subtype of Autosomal dominant Charcot-Marie-Tooth disease type 2 characterized by the childhood onset of distal weakness and areflexia (with earlier and more severe involvement of the lower extremities), reduced sensory modalities (primarily pain and temperature sensation), foot deformities, postural tremor, scoliosis and contractures. Optic atrophy, vocal cord palsy with dysphonia, sensorineural hearing loss, spinal cord abnormalities and hydrocephalus have also been reported.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MFN2 | rs28940291  | GG       |
| MFN2 | rs28940292  | GG       |
| MFN2 | rs28940293  | TT       |
| MFN2 | rs28940294  | GG       |
| MFN2 | rs119103263 | CC       |
| MFN2 | rs119103265 | CC       |
| MFN2 | rs119103268 | CC       |
| MFN2 | rs387906991 | CC       |
| MFN2 | rs587777875 | CC       |
| MFN2 | rs794729198 | CC       |
| MFN2 | rs863224069 | CC       |
| MFN2 | rs863224969 | CC       |
| MFN2 | rs863224970 | AA       |
| MFN2 | rs863224967 | AA       |
| MFN2 | rs863224968 | CC       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# **Autosomal dominant Charcot-Marie-Tooth disease type 2D**

A form of axonal Charcot-Marie-Tooth disease, a peripheral sensorimotor neuropathy, characterized by distal weakness primarily and predominantly occurring in the upper limbs and tendon reflexes absent or reduced in the arms and decreased in the legs. Progression is slow.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| GARS1 | rs137852643 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# X-linked Charcot-Marie-Tooth disease type 1

X-linked Charcot-Marie-Tooth disease type 1 is a rare, genetic, peripheral sensorimotor neuropathy characterized by an X-linked dominant inheritance pattern and the childhood-onset (within the first decade in males) of progressive, distal, moderate to severe muscle weakness and atrophy in lower extremities and intrinsic hand muscles, pes cavus, bilateral foot drop, reduced or absent tendon reflexes, as well as mild to moderate sensory impairment in lower extremities. Females tend to have milder manifestations or may be asymptomatic. Sensorineural deafness and central nervous system involvement have also been reported.

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=101075

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GJB1 | rs104894810 | CC       |
| GJB1 | rs104894811 | CC       |
| GJB1 | rs104894812 | GG       |
| GJB1 | rs104894814 | CC       |
| GJB1 | rs104894819 | AA       |
| GJB1 | rs104894821 | GG       |
| GJB1 | rs104894822 | AA       |
| GJB1 | rs104894824 | CC       |
| GJB1 | rs116840818 | GG       |
| GJB1 | rs116840819 | CC       |
| GJB1 | rs116840815 | CC       |
| GJB1 | rs116840822 | GG       |
| GJB1 | rs756928158 | GG       |
| GJB1 | rs863224471 | CC       |
| GJB1 | rs863224971 | CC       |
| GJB1 | rs863224972 | GG       |
| GJB1 | rs863224973 | CC       |
| GJB1 | rs139643362 | CC       |
| GJB1 | rs864622215 | GG       |
| GJB1 | rs879254047 | GG       |



## X-linked Charcot-Marie-Tooth disease type 5

A rare form of X-linked Charcot-Marie-Tooth disease, a peripheral sensorimotor neuropathy, characterized by infancy- to childhood-onset of: 1) progressive distal muscle weakness and atrophy (first appearing and more prominent in the lower extremities than the upper) which usually manifests with foot drop and gait disturbance, 2) bilateral, profound, prelingual sensorineural hearing loss and 3) progressive optic neuropathy.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PRPS1 | rs80338732  | TT       |
| PRPS1 | rs587781262 | AA       |
| PRPS1 | rs587781263 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



# **Charcot-Marie-Tooth disease type 1B**

Charcot-Marie-Tooth disease type 1B (CMT1B) is a form of CMT1 (see this term), caused by mutations in the MPZ gene (1q22), that presents with the manifestations of peripheral neuropathy (distal muscle weakness and atrophy, foot deformities and sensory loss). The phenotype is variable depending on the particular mutation. Two distinct presentations have been described: (1) an early infantile onset severe phenotype with delayed walking and motor nerve conduction velocities (MNCV) <10 m/s, often referred to as Dejerine-Sottas syndrome (see this term), or (2) a much later onset phenotype (>age 40), with normal or mildly slowed MNCV and more frequent hearing loss and pupillary abnormalities. CMT1B can also cause the classical CMT phenotype in about 15% of total CMT1B cases.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MPZ  | rs121913584 | GG       |
| MPZ  | rs121913585 | GG       |
| MPZ  | rs121913586 | CC       |
| MPZ  | rs121913587 | AA       |
| MPZ  | rs121913588 | CC       |
| MPZ  | rs121913589 | CC       |
| MPZ  | rs121913590 | GG       |
| MPZ  | rs121913594 | TT       |
| MPZ  | rs121913601 | GG       |
| MPZ  | rs121913603 | TT       |
| MPZ  | rs281865128 | CC       |
| MPZ  | rs863225025 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Charcot-Marie-Tooth disease type 1D**

Charcot-Marie-Tooth disease type 1D (CMT1D) is a form of CMT1 (see this term), caused by mutations in the EGR2 gene (10q21.1), with a variable severity and age of onset (from infancy to adulthood), that usually presents with gait abnormalities, progressive wasting and weakness of distal limb muscles, with possible later involvement of proximal muscles, foot deformity and severe reduction in nerve conduction velocity. Additional features may include scoliosis, cranial nerve deficits such as diplopia, and bilateral vocal cord paresis.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| EGR2 | rs104894161 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

## More information:



## **Charcot-Marie-Tooth disease type 2B5**

A rare axonal hereditary motor and sensory neuropathy characterized by infantile onset of slowly progressive distal motor weakness and atrophy (more severe in legs and moderate in arms) with mildly delayed motor development, hypotonia, and distal sensory impairment of all sensory modalities.

## Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| NEFL | rs58982919 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Autosomal dominant Charcot-Marie-Tooth disease type 2N**

A mild form of axonal Charcot-Marie-Tooth disease, a peripheral sensorimotor neuropathy, characterized by distal legs sensory loss and weakness that can be asymmetric. Tendon reflexes are reduced in the knees and absent in ankles. Progression is slow.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| AARS1 | rs267606621 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Charcot-Marie-Tooth disease type 2T**

A rare autosomal recessive axonal hereditary motor and sensory neuropathy characterized by adult onset of slowly progressive distal muscle weakness and atrophy, sensory impairment, and decreased or absent deep tendon reflexes predominantly in the lower extremities. Patients present gait disturbances but remain ambulatory. Mild involvement of the upper limbs may be seen.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| DNAJB2 | rs797045039 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## SURF1-related Charcot-Marie-Tooth disease type 4

A subtype of Charcot-Marie-Tooth disease type 4 characterized by childhood onset of severe, progressive, demyelinating sensorimotor neuropathy manifesting with distal muscle weakness and atrophy of hands and feet, distal sensory impairment (vibration and pinprick) of lower limbs, lactic acidosis, areflexia and severely reduced motor nerve conduction velocities (25 m/s or less). Patients may also present kyphoscoliosis, nystagmus, hearing loss, cerebellar ataxia and/or brain MRI abnormalities (putaminal and periaqueductal lesions).

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SURF1 | rs782190413 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Charcot-Marie-Tooth disease type 4A**

Charcot-Marie-Tooth disease type 4A (CMT4A) is a subtype of Charcot-Marie-Tooth disease type 4 characterized by early-onset (infancy to early childhood) of severe, rapidly demyelinating, axonal, or intermediate progressing sensorimotor neuropathy usually affecting first, and more severely, the distal lower extremities and later the proximal muscles and upper extremities. Nerve conduction velocities range from very slow to normal. Apart from the typical CMT phenotype (distal muscle weakness and atrophy, sensory loss, frequent pes cavus foot deformity), patients commonly present delayed motor development, vocal cord paresis, mild sensory loss, abolished deep tendon reflexes, and skeletal deformities.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| GDAP1 | rs104894075 | CC       |
| GDAP1 | rs745663149 | CC       |
| GDAP1 | rs864622501 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Charcot-Marie-Tooth disease type 4C**

Charcot-Marie-Tooth disease type 4C (CMT4C) is a subtype of Charcot-Marie-Tooth type 4 characterized by childhood or adolescent-onset of a relatively mild, demyelinating sensorimotor neuropathy that contrasts with a severe, rapidly progressing, early-onset scoliosis, and the typical CMT phenotype (i.e. distal muscle weakness and atrophy, sensory loss, and often foot deformity). A wide spectrum of nerve conduction velocities are observed and cranial nerve involvement and kyphoscoliosis have also been reported.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| MIR584 | rs864309709 | TT       |
| SH3TC2 | rs80338933  | GG       |
| SH3TC2 | rs80338934  | GG       |
| SH3TC2 | rs80338925  | CC       |
| SH3TC2 | rs80338926  | GG       |
| SH3TC2 | rs80338931  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Charcot-Marie-Tooth disease type 4F**

Charcot-Marie-Tooth disease type 4F (CMT4F) is a severe, demyelinating subtype of Charcot-Marie-Tooth disease type 4 characterized by the childhood onset of a slowly-progressing typical CMT phenotype (i.e. distal muscle weakness and atrophy, as well as pes cavus) that presents severe sensory loss (frequently with sensory ataxia), moderately to severely reduced motor nerve conduction velocities and almost invariable absence of sensory nerve action potentials, and delayed motor milestones.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PRX  | rs104894714 | GG       |
| PRX  | rs104894707 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Charcot-Marie-Tooth disease type 4J**

Charcot-Marie-Tooth disease type 4J is a subtype of Charcot-Marie-Tooth disease type 4 characterized by childhood- to adulthood-onset of variably severe, rapidly progressive, axonal and demyelinating sensorimotor neuropathy typically manifesting with delayed motor development, proximal and distal asymmetric muscle weakness and atrophy of the lower and upper extremities, severe motor dysfunction with mildly reduced sensory impairment, and areflexia. Nerve conduction velocities range from very mildly to severely reduced.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FIG4 | rs377357931 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Coats disease

Coats disease (CD) is an idiopathic disorder characterized by retinal telangiectasia with deposition of intraretinal or subretinal exudates, potentially leading to retinal detachment and unilateral blindness. CD is classically an isolated and unilateral condition affecting otherwise healthy young children.

## Your genetic map

| Gene   | SNP        | Genotype |
|--------|------------|----------|
| PRSS23 | rs80358284 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Sporadic Creutzfeldt-Jakob disease

A rare sporadic human prion disease characterized by rapidly progressive cognitive impairment in combination with variable neurologic signs and symptoms including myoclonus, visual or cerebellar problems, pyramidal or extrapyramidal features, or akinetic mutism. Brain imaging may show high signal intensity in caudate, putamen, and/or cortical regions, and a typical EEG pattern consisting of generalized periodic sharp wave complexes is observed in many cases. The disease is invariably fatal within less than two years. Neuropathologic examination reveals deposition of abnormal prion protein in brain tissue, as well as spongiform change and massive neuronal loss and gliosis.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| PRNP | rs74315408 | GG       |
| PRNP | rs74315412 | GG       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Crouzon disease

Crouzon disease is characterized by craniosynostosis and facial hypoplasia.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FGFR2 | rs121918487 | CC       |
| FGFR2 | rs121918489 | AA       |
| FGFR2 | rs121918490 | GG       |
| FGFR2 | rs121918491 | CC       |
| FGFR2 | rs121918493 | TT       |
| FGFR2 | rs121918494 | GG       |
| FGFR2 | rs121918497 | TT       |
| FGFR2 | rs121918501 | AA       |
| FGFR2 | rs121918488 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **Dent disease**

Dent disease is a rare genetic renal tubular disease characterized by manifestations of proximal tubule dysfunction.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CLCN5 | rs151340621 | CC       |
| CLCN5 | rs797044810 | CC       |
| CLCN5 | rs797044813 | CC       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Free sialic acid storage disease

Free sialic acid storage disease (free SASD), is a group of lysosomal storage diseases characterized by a spectrum of clinical manifestations including neurological and developmental disorders with severity ranging from the milder phenotype, Salla disease (SD), to the most severe phenotype, infantile free sialic acid storage disease (ISSD).

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC17A5 | rs201284672 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Fabry disease**

Fabry disease (FD) is a progressive, inherited, multisystemic lysosomal storage disease characterized by specific neurological, cutaneous, renal, cardiovascular, cochleovestibular and cerebrovascular manifestations.

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=324

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| GLA    | rs797044747 | GG       |
| GLA    | rs869312142 | AA       |
| RPL36A | rs104894827 | GG       |
| RPL36A | rs104894828 | CC       |
| RPL36A | rs104894830 | TT       |
| RPL36A | rs104894831 | GG       |
| RPL36A | rs104894832 | CC       |
| RPL36A | rs104894835 | TT       |
| RPL36A | rs28935196  | AA       |
| RPL36A | rs28935197  | TT       |
| RPL36A | rs104894840 | CC       |
| RPL36A | rs104894841 | GG       |
| RPL36A | rs28935486  | TT       |
| RPL36A | rs28935487  | TT       |
| RPL36A | rs28935492  | CC       |
| RPL36A | rs104894842 | CC       |
| RPL36A | rs28935493  | CC       |
| RPL36A | rs104894843 | GG       |
| RPL36A | rs104894844 | CC       |
| RPL36A | rs104894845 | CC       |
| RPL36A | rs104894851 | GG       |
| RPL36A | rs104894852 | TT       |
| RPL36A | rs28935495  | TT       |
| RPL36A | rs104894834 | GG       |
| RPL36A | rs397515870 | GG       |
| RPL36A | rs398123199 | GG       |
| RPL36A | rs398123201 | AA       |
| RPL36A | rs398123206 | CC       |
| RPL36A | rs398123207 | CC       |
| RPL36A | rs398123208 | CC       |
| RPL36A | rs113173389 | CC       |
|        |             |          |



### Gaucher disease

Gaucher disease (GD) is a lysosomal storage disorder encompassing three main forms (types 1, 2 and 3), a fetal form and a variant with cardiac involvement (Gaucher disease - ophthalmoplegia - cardiovascular calcification or Gaucher-like disease).

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GBA1 | rs76763715  | TT       |
| GBA1 | rs80356769  | CC       |
| GBA1 | rs80356771  | GG       |
| GBA1 | rs76539814  | GG       |
| GBA1 | rs75822236  | CC       |
| GBA1 | rs364897    | TT       |
| GBA1 | rs121908312 | CC       |
| GBA1 | rs80356772  | CC       |
| GBA1 | rs398123527 | CC       |
| GBA1 | rs398123528 | CC       |
| GBA1 | rs409652    | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Hirschsprung disease

A rare congenital intestinal motility disorder that is characterized by signs of intestinal obstruction due to the presence of an aganglionic segment of variable extent in the terminal part of the colon.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| RET  | rs377767391 | TT       |
| RET  | rs377767412 | GG       |
| RET  | rs143795581 | AA       |
| RET  | rs193922699 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Krabbe disease

A rare lysosomal disorder that affects the white matter of the central and peripheral nervous systems characterized by neurodegeneration with severity depending on the age of onset (infantile, late-infantile, juvenile, adolescent and adulthood).

## Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| GALC | rs199847983  | CC       |
| GALC | rs200378205  | CC       |
| GALC | rs752537626  | TT       |
| GALC | rs771111145  | GG       |
| GALC | rs756690487  | CC       |
| GALC | rs756352952  | GG       |
| GALC | rs1057516453 | AA       |
| GALC | rs200960659  | GG       |
| GALC | rs200532368  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Lafora disease

A rare, inherited, severe, progressive myoclonic epilepsy characterized by myoclonus and/or generalized seizures, visual hallucinations (partial occipital seizures), and progressive neurological decline.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| EPM2A  | rs104893950 | GG       |
| NHLRC1 | rs28940575  | AA       |
| NHLRC1 | rs28940576  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Leber plus disease

A rare inherited mitochondrial disease characterized by the clinical features of Leber hereditary optic neuropathy in combination with other systemic or neurological abnormalities. These abnormalities include: postural tremor, motor disorder, multiple sclerosis-like syndrome, spinal cord disease, skeletal changes, Parkinsonism with dystonia, anarthria, dystonia, motor and sensory peripheral neuropathy, spasticity, mild encephalopathy, and cardiac arrhythmias.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ND1  | rs199476122 | GG       |
| ND6  | rs199476105 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Menkes disease

A rare congenital disorder of copper metabolism with severe multisystemic manifestations that are primarily characterized by progressive neurodegeneration and marked connective tissue anomalies. A pathognomonic feature is the typical sparse, abnormal steely hair.

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=565

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ATP7A | rs72554649  | CC       |
| ATP7A | rs72554652  | GG       |
| ATP7A | rs151340633 | CC       |
| ATP7A | rs797045399 | CC       |
| ATP7A | rs797045325 | GG       |
| ATP7A | rs72554636  | CC       |
| ATP7A | rs797045330 | CC       |
| ATP7A | rs797045332 | CC       |
| ATP7A | rs797045337 | GG       |
| ATP7A | rs797045338 | GG       |
| ATP7A | rs797045339 | TT       |
| ATP7A | rs72554639  | GG       |
| ATP7A | rs72554640  | CC       |
| ATP7A | rs797045340 | GG       |
| ATP7A | rs797045341 | GG       |
| ATP7A | rs797045342 | GG       |
| ATP7A | rs797045346 | TT       |
| ATP7A | rs797045348 | GG       |
| ATP7A | rs797045347 | GG       |
| ATP7A | rs797045349 | AA       |
| ATP7A | rs72554644  | GG       |
| ATP7A | rs797045351 | GG       |
| ATP7A | rs797045354 | TT       |
| ATP7A | rs72554645  | CC       |
| ATP7A | rs797045357 | TT       |
| ATP7A | rs797045359 | GG       |
| ATP7A | rs797045360 | CC       |
| ATP7A | rs797045363 | GG       |
| ATP7A | rs72554650  | CC       |
| ATP7A | rs797045367 | GG       |
| ATP7A | rs797045370 | TT       |
|       |             |          |



### **Naxos disease**

A recessively inherited condition with arrhythmogenic right ventricular dysplasia/cardiomyopathy (ARVD/C) and a cutaneous phenotype, characterised by peculiar woolly hair and palmoplantar keratoderma.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| JUP  | rs373761090 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Niemann-Pick disease type A

A rare, autosomal recessive, acid sphingomyelinase deficiency characterized clinically by onset in infancy or early childhood with failure to thrive, hepatosplenomegaly, interstitial lung disease and rapidly progressive neurodegenerative disorders.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SMPD1 | rs120074117 | GG       |
| SMPD1 | rs120074119 | GG       |
| SMPD1 | rs120074122 | GG       |
| SMPD1 | rs120074124 | TT       |
| SMPD1 | rs120074125 | TT       |
| SMPD1 | rs398123474 | GG       |
| SMPD1 | rs398123475 | TT       |
| SMPD1 | rs182812968 | CC       |
| SMPD1 | rs398123478 | CC       |
| SMPD1 | rs398123479 | GG       |
| SMPD1 | rs727504166 | TT       |
| SMPD1 | rs769904764 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Niemann-Pick disease type B

A rare autosomal recessive, chronic, acid sphingomyelinase deficiency characterized clinically by onset in childhood with hepatosplenomegaly, growth retardation, interstitial lung disease and absence of neurodegenerative disorders.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SMPD1 | rs120074126 | CC       |
| SMPD1 | rs120074127 | CC       |
| SMPD1 | rs120074128 | CC       |
| SMPD1 | rs120074117 | GG       |
| SMPD1 | rs182812968 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Niemann-Pick disease type C

A rare lysosomal lipid storage disease characterized by variable clinical signs, depending on the age of onset, such as prolonged unexplained neonatal jaundice or cholestasis, isolated unexplained splenomegaly, and progressive, often severe neurological symptoms such as cognitive decline, cerebellar ataxia, vertical supranuclear gaze palsy (VSPG), dysarthria, dysphagia, dystonia, seizures, gelastic cataplexy, and psychiatric disorders.

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=646

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| NPC1 | rs28942105  | TT       |
| NPC1 | rs80358254  | CC       |
| NPC1 | rs80358259  | AA       |
| NPC1 | rs120074135 | CC       |
| NPC1 | rs28942107  | GG       |
| NPC1 | rs786200877 | CC       |
| NPC1 | rs80358252  | CC       |
| NPC1 | rs28942108  | GG       |
| NPC1 | rs80358253  | TT       |
| NPC1 | rs483352886 | CC       |
| NPC1 | rs543206298 | GG       |
| NPC1 | rs369368181 | GG       |
| NPC1 | rs758902805 | GG       |
| NPC1 | rs200444084 | CC       |
| NPC1 | rs786204455 | GG       |
| NPC1 | rs139751448 | CC       |
| NPC1 | rs372030650 | TT       |
| NPC1 | rs794727897 | CC       |
| NPC1 | rs777286835 | GG       |
| NPC1 | rs886042268 | TT       |
| NPC1 | rs759826138 | GG       |



### Norrie disease

A rare developmental defect during embryogenesis characterized by abnormal retinal development with congenital blindness. Common associated manifestations include sensorineural hearing loss and developmental delay, intellectual disability and/or behavioral disorders.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| NDP AS1 | rs398123283 | GG       |
| NDP AS1 | rs727504031 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Oguchi disease

Oguchi disease is an autosomal recessive retinal disorder characterized by congenital stationary night blindness and the Mizuo-Nakamura phenomenon.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SAG  | rs397514681 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Pelizaeus-Merzbacher disease

Pelizaeus-Merzbacher disease (PMD) is an X-linked leukodystrophy characterized by developmental delay, nystagmus, hypotonia, spasticity, and variable intellectual deficit. It is classified into three sub-forms based on the age of onset and severity: connatal, transitional, and classic PMD (see these terms).

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| RAB9B | rs132630278 | CC       |
| RAB9B | rs132630279 | TT       |
| RAB9B | rs11543022  | CC       |
| RAB9B | rs797045064 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### Refsum disease

A metabolic disease characterized by anosmia, cataract, early-onset retinitis pigmentosa and possible neurological manifestations, including peripheral neuropathy and cerebellar ataxia. Other features can be deafness, ichthyosis, skeletal abnormalities, and cardiac arrhythmia. It is characterized biochemically by accumulation of phytanic acid in plasma and tissues.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PHYH | rs201578674 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Chylomicron retention disease

Chylomicron retention disease (CRD) is a type of familial hypocholesterolemia characterized by malnutrition, failure to thrive, growth failure, vitamin E deficiency and hepatic, neurologic and ophthalmologic complications.

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| SAR1B | rs28942109 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Sandhoff disease

Sandhoff disease is a lysosomal storage disorder from the GM2 gangliosidosis family and is characterised by central nervous system degeneration.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| HEXB | rs28942073  | CC       |
| HEXB | rs121907983 | GG       |
| HEXB | rs121907985 | CC       |
| HEXB | rs121907986 | CC       |
| HEXB | rs398123446 | AA       |
| HEXB | rs761197472 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

Your genetic map



## Hereditary Diseases (genetics)

## Stargardt disease

A rare ophthalmic disorder that is usually characterized by a progressive loss of central vision associated with irregular macular and perimacular yellow-white fundus flecks, and a so-called "beaten bronze" atrophic central macular lesion.

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ABCA4 | rs61751408  | GG       |
| ABCA4 | rs61750200  | GG       |
| ABCA4 | rs121909205 | GG       |
| ABCA4 | rs61750130  | GG       |
| ABCA4 | rs61751383  | GG       |
| ABCA4 | rs61753033  | AA       |
| ABCA4 | rs61751399  | CC       |
| ABCA4 | rs61750120  | GG       |
| ABCA4 | rs398123339 | TT       |
| ABCA4 | rs61752390  | AA       |
| ABCA4 | rs61748550  | GG       |
| ABCA4 | rs61751410  | CC       |
| ABCA4 | rs61748556  | GG       |
| ABCA4 | rs150774447 | CC       |
| ABCA4 | rs55732384  | GG       |
| ABCA4 | rs61749414  | GG       |
| ABCA4 | rs61752401  | CC       |
| ABCA4 | rs62654395  | CC       |
| ABCA4 | rs61749420  | GG       |
| ABCA4 | rs201738997 | TT       |
| ABCA4 | rs62654397  | GG       |
| ABCA4 | rs61749428  | CC       |
| ABCA4 | rs61750202  | CC       |
| ABCA4 | rs61752406  | CC       |
| ABCA4 | rs61749459  | CC       |
| ABCA4 | rs61751397  | GG       |
| ABCA4 | rs61752416  | TT       |
| ABCA4 | rs61750121  | CC       |
| ABCA4 | rs61752425  | CC       |
| ABCA4 | rs61752427  | GG       |
| ABCA4 | rs62642573  | CC       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Tangier disease**

A rare, genetic neurometabolic disease characterized biochemically by an almost complete absence of plasma high-density lipoproteins (HDL), and clinically by liver, spleen, lymph node and tonsil enlargement along with multifocal peripheral neuropathy, corneal, skin and nail and, occasionally, cardiovascular disease.

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| ABCA1 | rs28937313 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Tay-Sachs disease**

A rare disorder characterized by accumulation of G2 gangliosides due to hexosaminidase A deficiency.

## Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| HEXA     | rs147324677 | CC       |
| HEXA     | rs121907952 | CC       |
| HEXA     | rs797044432 | CC       |
| HEXA     | rs121907955 | CC       |
| HEXA     | rs28941770  | CC       |
| HEXA     | rs121907953 | GG       |
| HEXA     | rs121907956 | CC       |
| HEXA     | rs121907957 | CC       |
| HEXA     | rs121907958 | CC       |
| HEXA     | rs121907959 | CC       |
| HEXA     | rs28942071  | GG       |
| HEXA     | rs121907966 | GG       |
| HEXA     | rs76173977  | CC       |
| HEXA     | rs121907972 | GG       |
| HEXA     | rs387906311 | CC       |
| HEXA     | rs121907980 | CC       |
| HEXA     | rs587779406 | GG       |
| HEXA     | rs786204585 | GG       |
| HEXA     | rs370266293 | CC       |
| HEXA     | rs772180415 | CC       |
| HEXA     | rs762374961 | CC       |
| HEXA     | rs767041069 | CC       |
| HEXA     | rs150675340 | GG       |
| HEXA     | rs762060470 | CC       |
| HEXA     | rs185429231 | CC       |
| HEXA AS1 | rs786204721 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **Thomsen and Becker disease**

A rare, genetic, skeletal muscle channelopathy characterized by slow muscle relaxation after contraction (myotonia).

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CLCN1 | rs80356700  | GG       |
| CLCN1 | rs80356703  | GG       |
| CLCN1 | rs80356697  | TT       |
| CLCN1 | rs80356685  | CC       |
| CLCN1 | rs80356687  | CC       |
| CLCN1 | rs80356692  | GG       |
| CLCN1 | rs375596425 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Von Hippel-Lindau disease

Von Hippel-Lindau disease (VHL) is a familial cancer predisposition syndrome associated with a variety of malignant and benign neoplasms, most frequently retinal, cerebellar, and spinal hemangioblastoma, renal cell carcinoma (RCC), and pheochromocytoma.

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=892

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| VHL  | rs5030821   | GG       |
| VHL  | rs5030818   | CC       |
| VHL  | rs5030820   | CC       |
| VHL  | rs119103277 | GG       |
| VHL  | rs104893824 | TT       |
| VHL  | rs5030809   | TT       |
| VHL  | rs104893825 | GG       |
| VHL  | rs28940297  | TT       |
| VHL  | rs5030827   | GG       |
| VHL  | rs5030808   | GG       |
| VHL  | rs267607170 | AA       |
| VHL  | rs193922608 | CC       |
| VHL  | rs193922609 | GG       |
| VHL  | rs193922610 | CC       |
| VHL  | rs193922613 | AA       |
| VHL  | rs143985153 | AA       |
| VHL  | rs5030826   | CC       |
| VHL  | rs5030802   | GG       |
| VHL  | rs397516440 | CC       |
| VHL  | rs397516441 | AA       |
| VHL  | rs5030817   | GG       |
| VHL  | rs397516444 | GG       |
| VHL  | rs397516445 | TT       |
| VHL  | rs5030804   | AA       |
| VHL  | rs398123481 | CC       |
| VHL  | rs587780077 | GG       |
| VHL  | rs5030829   | GG       |
| VHL  | rs727504215 | GG       |
| VHL  | rs730882034 | CC       |
| VHL  | rs730882032 | GG       |
| VHL  | rs121913346 | TT       |
|      |             |          |



## Von Willebrand disease type 1

A form of von Willebrand disease (VWD) characterized by a bleeding disorder associated with a partial, quantitative plasmatic deficiency of an otherwise structurally and functionally normal von Willebrand factor (VWF).

## Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| VWF  | rs41276738 | CC       |
| VWF  | rs61751286 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Von Willebrand disease type 2A

A subtype of type 2 von Willebrand disease characterized by a bleeding disorder associated with a decrease in the affinity of the Willebrand factor (VWF) for platelets and the subendothelium caused by a deficiency of high molecular weight VWF multimers. The disease manifests as mucocutaneous bleeding (menorrhagia, epistaxis, gastrointestinal hemorrhage, etc.).

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| VWF  | rs61749397 | CC       |
| VWF  | rs61750074 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Von Willebrand disease type 3

A form of von Willebrand disease (VWD) characterized by a bleeding disorder associated with a total or near-total absence of Willebrand factor (VWF) in the plasma and cellular compartments, also leading to a profound deficiency of plasmatic factor VIII (FVIII). It is the most severe form of VWD.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| VWF  | rs61751296 | GG       |
| VWF  | rs2363337  | CC       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Wilson disease

A rare genetic disorder of copper metabolism presenting with non-specific hepatic, neurologic, psychiatric or ophthalmologic manifestations due to impaired biliary copper excretion and consecutive excessive copper deposition in the body.

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=905

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ALG11 | rs369488210 | TT       |
| ATP7B | rs76151636  | GG       |
| ATP7B | rs121907992 | CC       |
| ATP7B | rs28942074  | CC       |
| ATP7B | rs28942075  | CC       |
| ATP7B | rs28942076  | CC       |
| ATP7B | rs121907993 | GG       |
| ATP7B | rs121907990 | TT       |
| ATP7B | rs121907996 | CC       |
| ATP7B | rs121907997 | GG       |
| ATP7B | rs60431989  | AA       |
| ATP7B | rs121907999 | GG       |
| ATP7B | rs121908000 | AA       |
| ATP7B | rs121908001 | CC       |
| ATP7B | rs137853279 | CC       |
| ATP7B | rs193922102 | AA       |
| ATP7B | rs193922103 | TT       |
| ATP7B | rs72552255  | GG       |
| ATP7B | rs193922107 | GG       |
| ATP7B | rs193922109 | GG       |
| ATP7B | rs193922110 | CC       |
| ATP7B | rs398123137 | AA       |
| ATP7B | rs137853285 | CC       |
| ATP7B | rs137853284 | GG       |
| ATP7B | rs137853283 | CC       |
| ATP7B | rs201738967 | TT       |
| ATP7B | rs587783306 | CC       |
| ATP7B | rs587783307 | TT       |
| ATP7B | rs587783317 | CC       |
| ATP7B | rs776848753 | GG       |
| ATP7B | rs786204578 | GG       |
|       |             |          |



# Fatal mitochondrial disease due to combined oxidative phosphorylation defect type 3

Combined oxidative phosphorylation deficiency type 3 is an extremely rare clinically heterogenous disorder described in about 5 patients to date. Clinical signs included hypotonia, lactic acidosis, and hepatic insufficiency, with progressive encephalomyopathy or hypertrophic cardiomyopathy.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TSFM | rs121909485 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Rippling muscle disease

Rippling muscle disease is a rare, genetic, neuromuscular disorder characterized by muscle hyperirritability triggered by stretch, percussion or movement. Patients present wavelike, electrically-silent muscle contractions (rippling), muscle mounding, painful muscle stiffness and muscle hypertrophy, usually with elevated serum creatine kinase.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SSUH2 | rs116840773 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Muscle-eye-brain disease

A rare, congenital muscular dystrophy due to dystroglycanopathy characterized by early onset muscular dystrophy, severe muscular hypotonia, severe mental retardation and typical brain and eye malformations, including pachygyria, polymicrogyria, agyria, brainstem and cerebellar structural anomalies, severe myopia, glaucoma, optic nerve and retinal hypoplasia. Patients may present with seizures, macrocephaly or microcephaly, microphthalmia, and congenital contractures. Depending on the severity, limited motor function is acquired. Less severe cases have been reported.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FKRP  | rs104894680 | CC       |
| FKRP  | rs121908110 | AA       |
| FKTN  | rs377417974 | CC       |
| POMT1 | rs119462985 | CC       |
| POMT1 | rs119462987 | GG       |
| POMT1 | rs794727208 | CC       |
| POMT1 | rs149682171 | CC       |
| POMT1 | rs138902646 | CC       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Åland Islands eye disease

An X-linked recessive retinal disease characterized by fundus hypopigmentation, decrased visual acuity, nystagmus, astigmatism, progressive axial myopia, defective dark adaptation and protanopia.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| CACNA1F | rs797044676 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Glycogen storage disease due to LAMP-2 deficiency

Glycogen storage disease due to LAMP-2 (Lysosomal-Associated Membrane Protein 2) deficiency is a lysosomal glycogen storage disease characterised by severe cardiomyopathy and variable degrees of muscle weakness, frequently associated with intellectual deficit.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| LAMP2 | rs104894858 | CC       |
| LAMP2 | rs397516740 | CC       |
| LAMP2 | rs397516743 | TT       |
| LAMP2 | rs727504742 | CC       |
| LAMP2 | rs727503118 | GG       |
| LAMP2 | rs727503120 | CC       |
| LAMP2 | rs727503119 | CC       |
| LAMP2 | rs730880485 | AA       |
| LAMP2 | rs730880483 | GG       |
| LAMP2 | rs730880496 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Glycogen storage disease due to glucose-6-phosphatase deficiency

Glycogenosis due to glucose-6-phosphatase (G6P) deficiency or glycogen storage disease, (GSD), type 1, is a group of inherited metabolic diseases, including types a and b (see these terms), and characterized by poor tolerance to fasting, growth retardation and hepatomegaly resulting from accumulation of glycogen and fat in the liver.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| G6PC1 | rs1801175   | СС       |
| G6PC1 | rs104894563 | CC       |
| G6PC1 | rs80356487  | CC       |
| G6PC1 | rs104894566 | TT       |
| G6PC1 | rs80356484  | GG       |
| G6PC1 | rs104894565 | AA       |
| G6PC1 | rs104894567 | GG       |
| G6PC1 | rs80356482  | GG       |
| G6PC1 | rs1801176   | GG       |
| G6PC1 | rs80356485  | CC       |
| G6PC1 | rs80356483  | GG       |
| G6PC1 | rs387906505 | TT       |
| G6PC1 | rs780226142 | CC       |
| G6PC1 | rs863224023 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Glycogen storage disease due to acid maltase deficiency

A rare lysosomal storage disease characterized by lysosomal accumulation of glycogen particularly in skeletal, cardiac, and respiratory muscles, as well as the liver and nervous system, due to acid maltase deficiency. The clinical spectrum comprises infantile-onset disease with severe hypertrophic cardiomyopathy, generalized muscle weakness, poor feeding and failure to thrive, and respiratory insufficiency, and late-onset disease manifesting before or after twelve months of age without cardiomyopathy, with proximal muscle weakness and respiratory insufficiency.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GAA  | rs121907937 | GG       |
| GAA  | rs28937909  | GG       |
| GAA  | rs121907938 | CC       |
| GAA  | rs28940868  | CC       |
|      |             |          |
| GAA  | rs121907942 | CC       |
| GAA  | rs121907943 | CC       |
| GAA  | rs398123169 | GG       |
| GAA  | rs369532274 | CC       |
| GAA  | rs398123174 | TT       |
| GAA  | rs370950728 | GG       |
| GAA  | rs140826989 | GG       |
| GAA  | rs374143224 | GG       |
| GAA  | rs1800312   | GG       |
| GAA  | rs779556619 | TT       |
| GAA  | rs142752477 | GG       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Autosomal recessive polycystic kidney disease

A rare, genetic hepatorenal fibrocystic syndrome characterized by cystic dilatation and ectasia of renal collecting tubules, and a ductal plate malformation of the liver resulting in congenital hepatic fibrosis. Clinical presentation, whilst typically in utero or at birth, is variable and in the most severe cases includes Potter-sequence, oligohydramnios, pulmonary hypoplasia, and massively enlarged echogenic kidneys.

# Your genetic map

| Gene    | SNP          | Genotype |
|---------|--------------|----------|
| LOC1053 | rs148617572  | GG       |
| LOC1053 | rs201082169  | GG       |
| PKHD1   | rs398124476  | CC       |
| PKHD1   | rs398124478  | GG       |
| PKHD1   | rs398124480  | GG       |
| PKHD1   | rs398124503  | GG       |
| PKHD1   | rs146649803  | CC       |
| PKHD1   | rs727504089  | GG       |
| PKHD1   | rs786204688  | GG       |
| PKHD1   | rs773136605  | CC       |
| PKHD1   | rs794727566  | AA       |
| PKHD1   | rs748365248  | CC       |
| PKHD1   | rs180675584  | CC       |
| PKHD1   | rs369925690  | TT       |
| PKHD1   | rs759851475  | CC       |
| PKHD1   | rs1240212722 | TT       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal dominant generalized dystrophic epidermolysis bullosa

A rare dystrophic epidermolysis bullosa (DEB) characterized by generalized blistering, milia formation, atrophic scarring, and dystrophic nails.

Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL7A1 | rs121912836 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Recessive dystrophic epidermolysis bullosa inversa

A rare subtype of dystrophic epidermolysis bullosa (DEB) characterized by blisters and erosions which from adolescence or early adulthood are primarily confined to flexural skin sites.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL7A1 | rs121912839 | CC       |
| COL7A1 | rs121912847 | GG       |
| COL7A1 | rs121912849 | GG       |
| COL7A1 | rs121912852 | GG       |
| COL7A1 | rs121912854 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Dystrophic epidermolysis bullosa pruriginosa

A rare dystrophic epidermolysis bullosa (DEB) characterized by generalized or localized skin lesions associated with severe, if not intractable, pruritus.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL7A1 | rs121912855 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Junctional epidermolysis bullosa with pyloric atresia

A severe form of junctional epidermolysis bullosa (JEB) characterized by generalized blistering at birth and congenital atresia of the pylorus and rarely of other portions of the gastrointestinal tract.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ITGB4 | rs80338755  | GG       |
| ITGB4 | rs147222357 | GG       |
| ITGB4 | rs121912467 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Intermediate epidermolysis bullosa simplex with cardiomyopathy

A rare, inherited, epidermolysis bullosa characterized by aplasia cutis congenita on the extremities, leaving behind hypopigmentation and atrophy in a whirled pattern. Generalized blistering persists during childhood and heals with cutaneous and follicular atrophy, linear and stellate scars, and hypopigmentation. Skin fragility decreases with adulthood. Adult patients exhibit dyspigmentation and atrophy of the skin, scars, follicular atrophoderma, sparse body hair, progressive diffuse alopecia of the scalp, diffuse palmoplantar keratoderma, and nail changes. Dilative cardiomyopathy with heart failure complicates the disease course in young adulthood or later and may have lethal outcome. Ultra-structurally, intraepidermal splitting appears at the level of the basal keratinocytes, above the hemidesmosomes.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| KLHL24 | rs886037957 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal dominant generalized epidermolysis bullosa simplex, severe form

Epidermolysis bullosa simplex, Dowling-Meara type (EBS-DM) is a basal subtype of epidermolysis bullosa simplex (EBS, see this term) characterized by the presence of generalized vesicles and small blisters in grouped or arcuate configuration.

### Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| KRT14 | rs60399023 | GG       |
| KRT14 | rs58330629 | CC       |
| KRT14 | rs60171927 | TT       |
| KRT14 | rs61027685 | CC       |
| KRT5  | rs57599352 | AA       |
| KRT5  | rs59115483 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal dominant generalized epidermolysis bullosa simplex, intermediate form

Non-Dowling-Meara generalized epidermolysis bullosa simplex, formerly known as epidermolysis bullosa simplex, Koebner type (EBS-K) is a generalized basal subtype of epidermolysis bullosa simplex (EBS, see this term) characterized by non-herpetiform blisters and erosions arising in particular at sites of friction.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| KLHL24 | rs886037957 | GG       |
| KLHL24 | rs886037956 | AA       |
| KRT14  | rs58380626  | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Autosomal dominant epilepsy with auditory features

A rare, genetic, familial partial epilepsy disease characterized by focal seizures associated with prominent ictal auditory symptoms, and/or receptive aphasia, presenting in two or more family members and having a relatively benign evolution.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1053 | rs119488099 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Juvenile myoclonic epilepsy

Juvenile myoclonic epilepsy is the most common hereditary idiopathic generalized epilepsy syndrome and is characterized by myoclonic jerks of the upper limbs on awakening, generalized tonic-clonic seizures manifesting during adolescence and triggered by sleep deprivation, alcohol intake, and cognitive activities, and typical absence seizures (30% of cases).

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| EFHC1  | rs796052414 | CC       |
| GABRA1 | rs796052488 | GG       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Progressive myoclonic epilepsy type 6

A rare, genetic, neurological disorder characterized by early-onset, progressive ataxia associated with myoclonic seizures (frequently associated with other seizure types such as generalized tonic-clonic, absence and drop attacks), scoliosis of variable severity, areflexia, elevated creatine kinase serum levels, and relative preservation of cognitive function until late in the disease course.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| GOSR2 | rs387906881 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Benign familial neonatal epilepsy

Benign familial neonatal epilepsy (BFNE) is a rare genetic epilepsy syndrome characterized by the occurrence of afebrile seizures in otherwise healthy newborns with onset in the first few days of life.

### Your genetic map

| Gene    | SNP          | Genotype |
|---------|--------------|----------|
| KCNQ2   | rs118192226  | GG       |
| KCNQ2   | rs118192208  | CC       |
| KCNQ2   | rs118192216  | CC       |
| KCNQ2   | rs796052619  | GG       |
| KCNQ2   | rs1057516121 | CC       |
| KCNQ2   | rs118192194  | GG       |
| KCNQ2   | rs796052615  | TT       |
| KCNQ2   | rs864321712  | GG       |
| KCNQ3   | rs796052678  | GG       |
| KCNQ3   | rs796052675  | GG       |
| LOC1053 | rs118192234  | CC       |
| LOC1053 | rs118192235  | CC       |
| LOC1053 | rs759584387  | GG       |
| LOC1053 | rs796052650  | GG       |
| LOC1053 | rs1057516123 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Multiple self-healing squamous epithelioma

Multiple self-healing squamous epithelioma (also known as Ferguson-Smith disease (FSD)) is a rare inherited skin cancer syndrome characterized by the development of multiple locally invasive skin tumors resembling keratoacanthomas of the face and limbs which usually heal spontaneously after several months leaving pitted scars.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| TGFBR1 | rs387906697 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **Chuvash erythrocytosis**

Chuvash erythrocytosis is a rare, genetic, congenital secondary polycythemia disorder characterized by increased hemoglobin, hematocrit and erythropoietin serum levels and normal oxygen affinity, which usually manifests with headache, dizziness, dyspnea and/or plethora. Patients present an increased risk of hemorrhage, thrombosis and early death.

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| VHL  | rs104893830  | GG       |
| VHL  | rs28940301   | CC       |
| VHL  | rs869025636  | GG       |
| VHL  | rs5030812    | AA       |
| VHL  | rs786202787  | AA       |
| VHL  | rs28940297   | TT       |
| VHL  | rs5030821    | GG       |
| VHL  | rs5030818    | CC       |
| VHL  | rs1352275281 | GG       |
| VHL  | rs869025622  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Supravalvular aortic stenosis

A rare aortic malformation characterized by the narrowing of the aorta lumen (close to its origin) associated or not with stenosis of other arteries (branch pulmonary arteries, coronary arteries). This narrowing of the aorta or pulmonary branches may impede blood flow, resulting in heart murmur and ventricular hypertrophy (left ventricle in case of aorta involvement, right ventricle in case of pulmonary artery involvement).

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| ELN     | rs137854452 | CC       |
| ELN     | rs397516433 | CC       |
| ELN     | rs727503027 | AA       |
| ELN     | rs727503029 | GG       |
| ELN     | rs863223518 | TT       |
| ELN     | rs200862792 | GG       |
| ELN AS1 | rs137854453 | CC       |
| ELN AS1 | rs727503033 | TT       |
| ELN AS1 | rs727503035 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **Dehydrated hereditary stomatocytosis**

Dehydrated hereditary stomatocytosis (DHS) is a rare hemolytic anemia characterized by a decreased red cell osmotic fragility due to a defect in cation permeability, resulting in red cell dehydration and mild to moderate compensated hemolysis. Pseudohyperkalemia (loss of potassium ions from red cells on storage at room temperature) is sometimes observed.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| PIEZO1 | rs587776989 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **Phenylketonuria**

A rare inborn error of amino acid metabolism characterized by elevated blood phenylalanine and low levels or absence of phenylalanine hydroxylase enzyme. If not detected early or left untreated, the disorder manifests with mild to severe mental disability.

**Multivariate analysis** 

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=716

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PAH  | rs5030861   | CC       |
| PAH  | rs5030858   | GG       |
| PAH  | rs62642936  | AA       |
| PAH  | rs62508698  | CC       |
| PAH  | rs76296470  | GG       |
| PAH  | rs5030849   | CC       |
| PAH  | rs62516151  | GG       |
| PAH  | rs5030847   | GG       |
| PAH  | rs62514891  | TT       |
| PAH  | rs5030843   | CC       |
| PAH  | rs5030846   | GG       |
| PAH  | rs5030851   | GG       |
| PAH  | rs62514927  | TT       |
| PAH  | rs62508588  | CC       |
| PAH  | rs79931499  | CC       |
| PAH  | rs5030860   | TT       |
| PAH  | rs62514907  | CC       |
| PAH  | rs62516095  | GG       |
| PAH  | rs62514952  | CC       |
| PAH  | rs62514953  | GG       |
| PAH  | rs5030852   | CC       |
| PAH  | rs118203921 | GG       |
| PAH  | rs78655458  | AA       |
| PAH  | rs62642926  | GG       |
| PAH  | rs5030855   | CC       |
| PAH  | rs5030841   | AA       |
| PAH  | rs62514934  | TT       |
| PAH  | rs5030850   | GG       |
| PAH  | rs5030859   | CC       |
| PAH  | rs62642933  | AA       |
| PAH  | rs62508646  | AA       |
|      |             |          |



#### Familial atrial fibrillation

Familial atrial fibrillation is a rare, genetically heterogenous cardiac disease characterized by erratic activation of the atria with an irregular ventricular response, in various members of a single family. It may be asymptomatic or associated with palpitations, dyspnea and light-headedness. Concomitant rhythm disorders and cardiomyopathies are frequently reported.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KCNQ1 | rs199472705 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Idiopathic ventricular fibrillation, non Brugada type

A rare, genetic, cardiac rhythm disease characterized by ventricular fibrillation in the absence of any structural or functional heart disease, or known repolarization abnormalities. The presence of J waves is associated with a higher risk of nocturnal ventricular fibrillation events and a higher risk of recurrence.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CACNA1 | rs587782933 | GG       |
| SCN5A  | rs137854604 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Congenital fibrosis of extraocular muscles

A rare syndromic disorder with strabismus characterized by congenital non-progressive ophthalmoplegia affecting the oculomotor and/or trochlear nucleus/nerve and their innervated muscles. Patients present with abnormal resting position of the eyes (in most cases infraducted and exotropic), limitation of vertical and horizontal gaze, impaired binocular vision, amblyopia, unilateral or bilateral blepharoptosis, and compensatory abnormal head posture. Extraocular manifestations include intellectual disability, peripheral neuropathy, and skeletal abnormalities, among others

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| KIF21A | rs121912585 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **Cystic fibrosis**

A rare, genetic pulmonary disorder characterized by sweat, thick mucus secretions causing multisystem disease, chronic infections of the lungs, bulky diarrhea and short stature.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CFTR | rs113993958 | GG       |
| CFTR | rs78655421  | GG       |
| CFTR | rs77932196  | GG       |
| CFTR | rs76713772  | GG       |
| CFTR | rs80055610  | GG       |
| CFTR | rs121908755 | GG       |
| CFTR | rs121909005 | TT       |
| CFTR | rs121908758 | CC       |
| CFTR | rs75527207  | GG       |
| CFTR | rs74597325  | CC       |
| CFTR | rs75549581  | GG       |
| CFTR | rs76649725  | CC       |
| CFTR | rs267606722 | GG       |
| CFTR | rs77010898  | GG       |
| CFTR | rs80034486  | CC       |
| CFTR | rs74767530  | CC       |
| CFTR | rs387906362 | AA       |
| CFTR | rs121909011 | CC       |
| CFTR | rs121909012 | CC       |
| CFTR | rs121909013 | GG       |
| CFTR | rs75961395  | GG       |
| CFTR | rs79850223  | CC       |
| CFTR | rs121909019 | GG       |
| CFTR | rs143570767 | GG       |
| CFTR | rs78194216  | CC       |
| CFTR | rs75039782  | CC       |
| CFTR | rs77902683  | GG       |
| CFTR | rs121908748 | GG       |
| CFTR | rs141158996 | GG       |
| CFTR | rs121908766 | CC       |
| CFTR | rs387906369 | GG       |
|      |             |          |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Phocomelia, Schinzel type

Schinzel phocomelia syndrome, also called limb/pelvis hypoplasia/aplasia syndrome, is characterized by skeletal malformations affecting the ulnae, pelvic bones, fibulae and femora. As the phenotype is similar to that described in the malformation syndrome known as Al-Awadi/Raas-Rothschild syndrome, they are thought to be the same disorder.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| WNT7A | rs387907231 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Symptomatic form of hemochromatosis type 1

Symptomatic form of hemochromatosis type 1 is a rare, hereditary hemochromatosis characterized inappropriately regulated intestinal iron absorption which leads to excessive iron storage in various organs and manifests with a wide range of signs and symptoms, including abdominal pain, weakness, lethargy, weight loss, elevated serum aminotransferase levels, increase in skin arthropathy pigmentation, and/or metacarpophalangeal joints. Other commonly associated manifestations include hepatomegaly, cirrhosis, liver fibrosis, hepatocellular carcinoma, restrictive cardiomyopathy and/or diabetes mellitus.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| HFE AS1 | rs146519482 | GG       |
| TFR2    | rs786204108 | CC       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### **Fucosidosis**

Fucosidosis is an extremely rare lysosomal storage disorder characterized by a highly variable phenotype with common manifestations including neurologic deterioration, coarse facial features, growth retardation, and recurrent sinopulmonary infections, as well as seizures, visceromegaly, angiokeratoma and dysostosis.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FUCA1 | rs794727774 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **Fundus albipunctatus**

Fundus albipunctatus is a rare, genetic retinal dystrophy disorder characterized by the presence of numerous small, round, yellowish-white retinal lesions that are distributed throughout the retina but spare the fovea. Patients present in childhood with non-progressive night blindness with prolonged cone and rod adaptation times. The macula may or may not be involved, which may result in a decrease of central visual acuity with age.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| BLOC1S1 | rs62638191  | GG       |
| BLOC1S1 | rs62638193  | GG       |
| BLOC1S1 | rs774122562 | GG       |
| RLBP1   | rs137853290 | CC       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **GM1** gangliosidosis

GM1 gangliosidosis is a rare lysosomal storage disorder characterized biochemically by deficient beta-galactosidase activity and clinically by a wide range of variable neurovisceral, ophthalmological and dysmorphic features.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| GLB1    | rs28934274  | CC       |
| GLB1    | rs72555366  | GG       |
| GLB1    | rs72555392  | CC       |
| GLB1    | rs192732174 | GG       |
| GLB1    | rs794727165 | GG       |
| LOC1079 | rs72555391  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### **MOGS-CDG**

MOGS-CDG is a form of congenital disorders of N-linked glycosylation characterized by generalized hypotonia, craniofacial dysmorphism (prominent occiput, short palpebral fissures, long eyelashes, broad nose, high arched palate, retrognathia), hypoplastic genitalia, seizures, feeding difficulties, hypoventilation, severe hypogammaglobulinemia with generalized edema, and increased resistance to particular viral infections (particularly to enveloped viruses). The disease is caused by loss-of-function mutations in the gene MOGS (2p13.1).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MOGS | rs587777323 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Juvenile glaucoma

A primary early-onset glaucoma that is characterized by early onset, severe elevation of intra ocular pressure of rapid progression, leading to optic nerve excavation and, when untreated, substantial visual impairment.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| MYOC | rs74315330 | GG       |
| MYOC | rs74315329 | GG       |
| MYOC | rs74315334 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Hawkinsinuria

Hawkinsinuria is an inborn error of tyrosine metabolism characterized by failure to thrive, persistent metabolic acidosis, fine and sparse hair, and excretion of the unusual cyclic amino acid metabolite, hawkinsin ((2-l-cystein-S-yl, 4-dihydroxycyclohex-5-en-1-yl)acetic acid), in the urine.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TIALD | rs367674632 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Hemochromatosis type 2

Hemochromatosis type 2 (juvenile) is the early-onset and most severe form of rare hereditary hemochromatosis (HH; see this term), a group of diseases characterized by excessive tissue iron deposition of genetic origin.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| HJV  | rs74315323 | GG       |
| HJV  | rs28940586 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Mild hemophilia A

Mild hemophilia A is a form of hemophilia A characterized by a small deficiency of factor VIII leading to abnormal bleeding as a result of minor injuries, or following surgery or tooth extraction.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| F8   | rs137852355 | GG       |
| F8   | rs28935499  | CC       |
| F8   | rs137852382 | AA       |
| F8   | rs137852403 | CC       |
| F8   | rs137852428 | GG       |
| F8   | rs137852439 | GG       |
| F8   | rs137852459 | TT       |
| F8   | rs137852464 | GG       |
| F9   | rs137852253 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Mild hemophilia B

Mild hemophilia B is a form of hemophilia B characterized by a small deficiency of factor IX leading to abnormal bleeding as a result of minor injuries, or following surgery or tooth extraction.

## Your genetic map

| Cana | CNID        | Canatima |
|------|-------------|----------|
| Gene | SNP         | Genotype |
| F8   | rs139526001 | TT       |
| F9   | rs137852227 | CC       |
| F9   | rs137852228 | GG       |
| F9   | rs137852232 | CC       |
| F9   | rs137852233 | GG       |
| F9   | rs137852237 | CC       |
| F9   | rs137852238 | GG       |
| F9   | rs137852248 | CC       |
| F9   | rs137852240 | CC       |
| F9   | rs137852241 | GG       |
| F9   | rs137852249 | GG       |
| F9   | rs137852250 | CC       |
| F9   | rs137852254 | CC       |
| F9   | rs137852257 | GG       |
| F9   | rs137852258 | CC       |
| F9   | rs137852259 | GG       |
| F9   | rs137852261 | CC       |
| F9   | rs137852268 | TT       |
| F9   | rs137852271 | GG       |
| F9   | rs137852272 | CC       |
| F9   | rs137852275 | GG       |
| F9   | rs387906481 | TT       |
| F9   | rs137852247 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Paroxysmal nocturnal hemoglobinuria

Paroxysmal nocturnal hemoglobinuria (PNH) is an acquired clonal hematopoietic stem cell disorder characterized by corpuscular hemolytic anemia, bone marrow failure and frequent thrombotic events.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PIGA | rs199422232 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Hepatoblastoma

A malignant hepatic tumor, typically affecting the pediatric population, arising mostly in an otherwise healthy liver. The most common signs are abdominal distension and abdominal mass. Sometimes patients present with anorexia, weight loss, fatigue. Most HBLs are sporadic, but some cases are associated with genetic factors, especially overgrowth syndromes, such as Beckwith-Wiedemann syndrome (BWS) or hemihypertrophy, and familial adenomatous polyposis (FAP).

### Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| TP53 | rs121912656  | CC       |
| TP53 | rs397516436  | GG       |
| TP53 | rs148924904  | TT       |
| TP53 | rs587782177  | CC       |
| TP53 | rs876660754  | CC       |
| TP53 | rs876658468  | GG       |
| TP53 | rs138729528  | GG       |
| TP53 | rs1057519975 | AA       |
| TP53 | rs1057519983 | AA       |
| TP53 | rs1057520007 | TT       |
| TP53 | rs530941076  | AA       |
| TP53 | rs28934874   | GG       |
| TP53 | rs1057519747 | AA       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hepatoencephalopathy due to combined oxidative phosphorylation defect type 1

Hepatoencephalopathy due to combined oxidative phosphorylation deficiency type 1 is a rare, inherited mitochondrial disorder due to a defect in mitochondrial protein synthesis characterized by intrauterine growth retardation, metabolic decompensation with recurrent vomiting, persistent severe lactic acidosis, encephalopathy, seizures, failure to thrive, severe global developmental delay, poor eye contact, severe muscular hypotonia or axial hypotonia with limb hypertonia, hepatomegaly and/or liver dysfunction and/or liver failure, leading to fatal outcome in severe cases. Neuroimaging abnormalities may include callosum thinning, leukodystrophy, delayed corpus myelination and basal ganglia involvement.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GFM1 | rs119470018 | AA       |
| GFM1 | rs119470019 | CC       |
| GFM1 | rs139430866 | CC       |
| GFM1 | rs863224030 | GG       |
| GFM1 | rs863224032 | CC       |
| GFM1 | rs201408725 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Hydrocephalus with stenosis of the aqueduct of Sylvius

A congenital, X-linked, clinical subtype of L1 syndrome characterized by severe hydrocephalus often of prenatal onset, adducted thumbs, spasticity (mostly evidenced by brisk tendon reflexes and extensor plantar responses) and moderate to severe intellectual disability. This subtype represents the severe end of the L1 syndrome spectrum and is associated with poor prognosis.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| L1CAM | rs137852520 | CC       |
| L1CAM | rs137852522 | GG       |
| L1CAM | rs797044787 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Hb Bart's hydrops fetalis

A severe form of alpha-thalassemia that is mostly lethal, and associated with severe long-term outcome and lifelong transfusions in survivors. It is characterized by fetal onset of generalized edema, pleural and pericardial effusions, and severe hypochromic anemia.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| GUSB    | rs786205674 | TT       |
| GUSB    | rs786205671 | CC       |
| GUSB    | rs786205673 | GG       |
| LOC1027 | rs786205667 | AA       |
| NEB     | rs769345284 | GG       |
| THSD1   | rs9536062   | GG       |
| THSD1   | rs786205669 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Phosphoribosylpyrophosphate synthetase superactivity

A rare X-linked disorder of purine metabolism associated with hyperuricemia and hyperuricosuria, and comprised of two forms: an early-onset severe form characterized by gout, urolithiasis, and neurodevelopmental anomalies and a mild late-onset form with no neurologic involvement.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PRPS1 | rs137852540 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Familial hyperaldosteronism type I

A rare heritable, glucocorticoid remediable form of primary aldosteronism (PA) characterized by early-onset hypertension, hyperaldosteronism, variable hypokalemia, low plasma renin activity (PRA), and abnormal production of 18-oxocortisol and 18-hydroxycortisol.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| CYP11B1 | rs193922538 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Transient familial neonatal hyperbilirubinemia

A rare genetic hepatic disease characterized by very high serum bilirubin levels in a newborn, clinically presenting as jaundice during the first few days of life. The condition is usually self-resolving, although in some cases it can lead to kernicterus with corresponding symptoms (including lethargy, high-pitched crying, hypotonia, missing reflexes, vomiting, or seizures, among others), which may result in chronic disability and even death.

### Your genetic map

| Gene   | SNP        | Genotype |
|--------|------------|----------|
| MROH2A | rs34993780 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Hyperimmunoglobulinemia D with periodic fever

A rare autoinflammatory disease, and form of mevalonate kinase deficiency (MKD), characterized by periodic attacks of fever and a systemic inflammatory reaction (cervical lymphadenopathy, abdominal pain, vomiting, diarrhea, arthralgia and skin manifestations.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MVK  | rs104895304 | TT       |
| MVK  | rs104895300 | CC       |
| MVK  | rs104895360 | CC       |
| MVK  | rs104895382 | TT       |
| MVK  | rs104895298 | GG       |
| MVK  | rs104895311 | GG       |
| MVK  | rs104895332 | TT       |
| MVK  | rs104895366 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal dominant hyperinsulinism due to SUR1 deficiency

A form of diazoxide-sensitive diffuse hyperinsulinism (DHI) characterized by hypoglycemic episodes that are usually mild, escaping detection during infancy, and usually present a good clinical response to diazoxide. Autosomal dominant hyperinsulinism due to SUR1 deficiency usually has a milder phenotype when compared to that resulting from recessive K-ATP mutations (recessive forms of Diazoxide-resistant hyperinsulinism).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ABCC8 | rs28936370  | CC       |
| ABCC8 | rs28938469  | GG       |
| ABCC8 | rs137852671 | CC       |
| ABCC8 | rs137852672 | AA       |
| ABCC8 | rs193922402 | GG       |
| ABCC8 | rs193922405 | CC       |
| ABCC8 | rs541269678 | GG       |
| ABCC8 | rs570388861 | GG       |
| ABCC8 | rs797045211 | CC       |
| ABCC8 | rs797045207 | CC       |
| ABCC8 | rs797045206 | AA       |
| ABCC8 | rs797045213 | TT       |
| ABCC8 | rs761749884 | CC       |
| ABCC8 | rs797045208 | AA       |
| ABCC8 | rs773306994 | CC       |
| ABCC8 | rs139328569 | GG       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Hyperinsulinism due to INSR deficiency

Hyperinsulinemic hypoglycemia due to INSR deficiency is a very rare autosomal dominant form of familial hyperinsulinism characterized clinically in the single reported family by postprandial hypoglycemia, fasting hyperinsulinemia, and an elevated serum insulin-to-C peptide ratio, and a variable age of onset.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| INSR | rs797045624 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Endosteal hyperostosis, Worth type**

Worth type autosomal dominant osteosclerosis is a sclerozing bone disorder characterized by generalized skeletal densification, particularly of the cranial vault and tubular long bones, which is not associated to an increased risk of fracture.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| LRP5 | rs121908670 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Primary hyperoxaluria

A disorder of glyoxylate metabolism characterized by an excess of oxalate resulting in kidney stones, nephrocalcinosis and ultimately renal failure and systemic oxalosis. There are 3 types of PH, types 1-3, all caused by liver-specific enzyme defects.

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=416

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| AGXT | rs121908520 | TT       |
| AGXT | rs121908521 | CC       |
| AGXT | rs121908522 | GG       |
| AGXT | rs121908523 | GG       |
| AGXT | rs121908524 | TT       |
| AGXT | rs121908525 | TT       |
| AGXT | rs121908526 | CC       |
| AGXT | rs121908527 | GG       |
| AGXT | rs121908530 | GG       |
| AGXT | rs121908529 | GG       |
| AGXT | rs180177238 | CC       |
| AGXT | rs180177157 | CC       |
| AGXT | rs180177168 | GG       |
| AGXT | rs180177195 | TT       |
| AGXT | rs180177197 | TT       |
| AGXT | rs180177207 | GG       |
| AGXT | rs180177227 | GG       |
| AGXT | rs180177253 | CC       |
| AGXT | rs180177259 | GG       |
| AGXT | rs180177267 | GG       |
| AGXT | rs180177156 | GG       |
| AGXT | rs180177225 | CC       |
| AGXT | rs180177298 | GG       |
| AGXT | rs796052064 | GG       |



## Familial isolated hyperparathyroidism

A rare, hereditary, familial primary hyperparathyroidism disease characterized by primary hyperparathyroidism due to single or multiple parathyroid tumors in at least two first-degree relatives in the absence of evidence of other endocrine disorders, tumors and/or systemic manifestations.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GCM2 | rs104893960 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Heritable pulmonary arterial hypertension

Heritable pulmonary arterial hypertension (HPAH) is a form of pulmonary arterial hypertension (PAH, see this term), occurring due to mutations in PAH predisposing genes or in a familial context. HPAH is characterized by elevated pulmonary arterial resistance leading to right heart failure. HPAH is progressive and potentially fatal.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SMAD9 | rs397514716 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Malignant hyperthermia of anesthesia

Malignant hyperthermia (MH) is a pharmacogenetic disorder of skeletal muscle that presents as a hypermetabolic response to potent volatile anesthetic gases such as halothane, sevoflurane, desflurane and the depolarizing muscle relaxant succinylcholine, and rarely, to stresses such as vigorous exercise and heat.

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=423

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| RYR1 | rs1801086   | GG       |
| RYR1 | rs118192161 | CC       |
| RYR1 | rs121918592 | GG       |
| RYR1 | rs28933397  | CC       |
| RYR1 | rs121918594 | GG       |
| RYR1 | rs118192175 | CC       |
| RYR1 | rs118192163 | GG       |
| RYR1 | rs118192177 | CC       |
| RYR1 | rs121918595 | CC       |
| RYR1 | rs118192162 | AA       |
| RYR1 | rs193922747 | TT       |
| RYR1 | rs193922839 | GG       |
| RYR1 | rs148399313 | GG       |
| RYR1 | rs193922843 | GG       |
| RYR1 | rs193922766 | GG       |
| RYR1 | rs193922876 | CC       |
| RYR1 | rs193922878 | CC       |
| RYR1 | rs193922768 | CC       |
| RYR1 | rs193922770 | CC       |
| RYR1 | rs193922772 | GG       |
| RYR1 | rs193922753 | GG       |
| RYR1 | rs193922781 | CC       |
| RYR1 | rs193922757 | CC       |
| RYR1 | rs112563513 | GG       |
| RYR1 | rs193922801 | AA       |
| RYR1 | rs193922802 | GG       |
| RYR1 | rs193922807 | GG       |
| RYR1 | rs193922810 | GG       |
| RYR1 | rs193922816 | CC       |
| RYR1 | rs193922818 | GG       |
| RYR1 | rs193922832 | GG       |
|      |             |          |



## Familial hypoaldosteronism

A rare genetic hypoaldosteronism that typically presents in infancy (earl-onset familial hypoaldosternism) as a life-threatening electrolyte imbalance (failure to thrive, recurrent vomiting, and severe dehydration). A history of fever, diarrhoea, lethargy, poor weight gain, poor feeding since birth may also be present. Older subjects (late-onset familial hypoaldosteronism) are less severely affected or asymptomatic.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| CYP11B2 | rs104894072 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Hypochondroplasia

A primary bone dysplasia with micromelia characterized by disproportionate short stature, mild lumbar lordosis and limited extension of the elbow joints.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FGFR3 | rs77722678  | AA       |
| FGFR3 | rs121913115 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Hypophosphatasia

A rare, genetic metabolic disorder characterized by reduced activity of unfractionated serum alkaline phosphatase (ALP) and various symptoms from life-threatening, severely impaired mineralization at birth to musculo-skeletal pain in adulthood.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ALPL | rs121918007 | GG       |
| ALPL | rs121918008 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## X-linked hypophosphatemia

X-linked hypophosphatemia (XLH) is a hereditary renal phosphate-wasting disorder characterized by hypophosphatemia, rickets and/or osteomalacia, and diminished growth.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| PHEX   | rs193922454 | TT       |
| PHEX   | rs193922455 | GG       |
| PHEX   | rs193922458 | GG       |
| PHEX   | rs193922459 | GG       |
| PTCHD1 | rs193922457 | GG       |
| PTCHD1 | rs875989883 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Primary hypomagnesemia with secondary hypocalcemia

Primary hypomagnesemia with secondary hypocalcemia (PHSH) is a form of familial primary hypomagnesemia (FPH, see this term), characterized by severe hypomagnesemia and secondary hypocalcemia associated with neurological symptoms, including generalized seizures, tetany and muscle spasms. PHSH may be fatal or may result in chronic irreversible neurological complications.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TRPM6 | rs869025214 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Familial primary hypomagnesemia with hypercalciuria and nephrocalcinosis with severe ocular involvement

Familial primary hypomagnesemia with hypercalciuria and nephrocalcinosis with severe ocular involvement (FHHNCOI) is a form of familial primary hypomagnesemia (FPH, see this term), characterized by excessive magnesium and calcium renal wasting, bilateral nephrocalcinosis, progressive renal failure and severe ocular abnormalities.

Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CLDN19 | rs118203979 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Focal dermal hypoplasia

A rare multiple congenital anomalies/dysmorphic syndrome characterized by abnormalities in ectodermal- and mesodermal-derived tissues, classically manifesting with skin abnormalities, limb defects, ocular malformations, and mild facial dysmorphism.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PORCN | rs267606973 | GG       |
| PORCN | rs137852218 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Pontocerebellar hypoplasia type 10

Pontocerebellar hypoplasia type 10 is a rare, genetic, pontocerebellar hypoplasia subtype characterized by severe psychomotor developmental delay, progressive microcephaly, progressive spasticity, seizures, and brain abnormalities consisting of mild atrophy of the cerebellum, pons and corpus callosum and cortical atrophy with delayed myelination. Patients may present dysmorphic facial features (high arched eyebrows, prominent eyes, long palpebral fissures and eyelashes, broad nasal root, and hypoplastic alae nasi) and an axonal sensorimotor neuropathy.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CLP1 | rs587777616 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Pontocerebellar hypoplasia type 2

A rare, genetic form of pontocerebellar hypoplasia characterized by pontocerebellar hypoplasia and progressive neocortical atrophy that manifests clinically with uncoordinated sucking and swallowing, and generalized clonus in the neonate. In early childhood, spasticity, chorea/dyskinesia, seizures and progressive microcephaly develop. Voluntary motor development is lacking.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| TSEN54 | rs113994152 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Pontocerebellar hypoplasia type 6

A rare, genetic form of pontocerebellar hypoplasia (PCH) characterized by neocortical and severe cerebral cortical atrophy associated with pontocerebellar hypoplasia with the pons and cerebellum equally affected. Clinically the disorder manifests at birth with hypotonia, clonus, epilepsy impaired swallowing and from infancy by progressive microcephaly, spasticity and lactic acidosis.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| RARS2 | rs199835443 | GG       |
| RARS2 | rs772887102 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Pontocerebellar hypoplasia type 8

Pontocerebellar hypoplasia type 8 (PCH8) is a novel very rare form of pontocerebellar hypoplasia characterized clinically by progressive microencephaly, feeding difficulties, severe developmental delay, although walking may be achieved, hypotonia often associated with increased muscle tone of lower extremities and deep tendon reflexes, joint deformities in the lower extremities, and occasionally complex seizures. PCH8 is caused by a loss-of-function mutation in the CHMP1A gene. MRI demonstrates a pontocerebellar hypoplasia with vermis and hemispheres equally affected and mild to severely reduced cerebral white matter volume with a fully formed very thin corpus callosum.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CHMP1A | rs397515426 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## X-linked adrenal hypoplasia congenita

A rare genetic adrenal disease characterized by primary adrenal insufficiency (AI) and/or hypogonadotropic hypogonadism (HH). Male patients typically present with AI with acute onset in infancy or insidious onset in childhood. Clinical features of AI include hyperpigmentation, vomiting, poor feeding, failure to thrive, seizures, vascular collapse, and sometimes sudden death. HH manifests later as delayed or arrested puberty. In rare cases, patients become symptomatic in early adulthood with delayed-onset AI, partial HH, and/or infertility. Histologically, the adrenal glands lack the permanent adult cortical zone. The remaining cells are larger than fetal adrenal cells ("cytomegalic") and contain characteristic nuclear inclusions.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| NR0B1 | rs104894892 | GG       |
| NR0B1 | rs104894894 | GG       |
| NR0B1 | rs132630327 | CC       |
| NR0B1 | rs386134262 | AA       |
| NROB1 | rs386134263 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Isolated optic nerve hypoplasia/aplasia

A rare genetic optic nerve disorder characterized by visual impairment or blindness resulting from varying degrees of underdevelopment of the optic nerve or even complete absence of the optic nerve, ganglion cells, and central retinal vessels. It may be unilateral, typically with otherwise normal brain development, or bilateral with accompanying severe and widespread congenital malformations of the central nervous system.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PAX6 | rs121907924 | GG       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Hypothyroidism due to TSH receptor mutations

A type of primary congenital hypothyroidism, a permanent thyroid hormone deficiency that is present from birth due to thyroid resistance to TSH.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| CEP128  | rs121908869 | GG       |
| LOC1019 | rs121908871 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hypotonia with lactic acidemia and hyperammonemia

This syndrome is characterised by severe hypotonia, lactic academia and congenital hyperammonaemia.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| MRPS22 | rs119478059 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Hereditary renal hypouricemia

A genetic renal tubular disorder characterized by urinary urate wasting that typically leads to asymptomatic hypouricemia and predisposes to urolithiasis and exercise-induced acute renal failure (EIARF).

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC22A1 | rs121907892 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Classic homocystinuria

Classical homocystinuria due to cystathionine beta-synthase (CbS) deficiency is characterized by the multiple involvement of the eye, skeleton, central nervous system, and vascular system.

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=394

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CBS  | rs121964962 | CC       |
| CBS  | rs121964964 | GG       |
| CBS  | rs121964969 | CC       |
| CBS  | rs28934891  | CC       |
| CBS  | rs375846341 | TT       |
| CBS  | rs398123151 | GG       |
| CBS  | rs763036586 | CC       |
| CBS  | rs771298943 | CC       |
| CBS  | rs770095972 | CC       |
| CBS  | rs781444670 | CC       |
| CBS  | rs149119723 | GG       |
| CBS  | rs863223433 | CC       |
| CBS  | rs372010465 | CC       |
| CBS  | rs863223432 | CC       |
| CBS  | rs775992753 | GG       |
| CBS  | rs778220779 | AA       |
| CBS  | rs863223435 | CC       |
| CBS  | rs148865119 | GG       |
| CBS  | rs781567152 | AA       |
| CBS  | rs762065361 | CC       |



# Homocystinuria due to methylene tetrahydrofolate reductase deficiency

Homocystinuria due to methylene tetrahydrofolate reductase (MTHFR) deficiency is a metabolic disorder characterised by neurological manifestations.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MTHFR | rs121434295 | CC       |
| MTHFR | rs200137991 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Harlequin ichthyosis

Harlequin ichthyosis (HI) is the most severe variant of autosomal recessive congenital ichthyosis (ARCI; see this term). It is characterized at birth by the presence of large, thick, plate-like scales over the whole body associated with severe ectropion, eclabium, and flattened ears, that later develops into a severe scaling erythroderma.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SNHG31 | rs137853289 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal dominant epidermolytic ichthyosis

Epidermolytic ichthyosis (EI) is a rare keratinopathic ichthyosis (KPI; see this term), that is characterized by a blistering phenotype at birth which progressively becomes hyperkeratotic.

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| KRT10 | rs58075662 | CC       |
| KRT10 | rs58852768 | GG       |
| KRT10 | rs58901407 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Exfoliative ichthyosis**

Exfoliative ichthyosis is an inherited, non-syndromic, congenital ichthyosis disorder characterized by the infancyonset of palmoplantar peeling of the skin (aggravated by exposure to water and by occlusion) associated with dry, scaly skin over most of the body. Pruritus and hypohidrosis may also be associated. Well-demarcated areas of denuded skin appear in moist and traumatized regions and skin biopsies reveal reduced cell-cell adhesion in the basal and suprabasal layers, prominent intercellular edema, numerous aggregates of keratin filaments in basal keratinocytes, attenuated cornified cell envelopes, and epidermal barrier impairment.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CSTA | rs149474339 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Lamellar ichthyosis

Lamellar ichthyosis (LI) is a keratinization disorder characterized by the presence of large scales all over the body without significant erythroderma.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TGM1 | rs121918716 | GG       |
| TGM1 | rs121918717 | CC       |
| TGM1 | rs121918718 | CC       |
| TGM1 | rs121918721 | CC       |
| TGM1 | rs121918723 | CC       |
| TGM1 | rs121918725 | CC       |
| TGM1 | rs121918727 | CC       |
| TGM1 | rs121918731 | GG       |
| TGM1 | rs121918732 | CC       |
| TGM1 | rs143473912 | CC       |
| TGM1 | rs142634031 | TT       |
| TGM1 | rs139208806 | TT       |
| TGM1 | rs140000324 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Recessive X-linked ichthyosis**

Recessive X-linked ichthyosis (RXLI) is a genodermatosis belonging to the Mendelian Disorders of Cornification (MeDOC) and characterized by generalized hyperkeratosis and scaling of the skin.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| STS  | rs137853167 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Incontinentia pigmenti

An X-linked syndromic muti-systemic ectodermal dysplasia presenting neonatally in females with a bullous rash along Blaschko's lines (BL) followed by verrucous plaques and hyperpigmented swirling patterns. It is further characterized by teeth abnormalities, alopecia, nail dystrophy and can affect the retinal and the central nervous system (CNS) microvasculature. It may have other aspects of ectodermal dysplasia such as sweat gland abnormalities. Germline pathogenic variants in males result in embryonic lethality.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| IKBKG | rs137853323 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Male infertility due to large-headed multiflagellar polyploid spermatozoa

Male infertility due to large-headed multiflagellar polypoid spermatozoa is a male infertility due to sperm disorder characterized by the presence, in sperm, of a very high percentage of spermatozoa with enlarged head, irregular head shape, multiple flagella, and abnormal midpiece and acrosome. It is generally associated with severe oligoasthenozoospermia and a high rate of sperm chromosomal abnormalities (polyploidy, aneuploidy).

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| AURKC | rs55658999 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Combined immunodeficiency with granulomatosis

A rare, genetic, non-severe combined immunodeficiency disease characterized by immunodeficiency (manifested by recurrent and/or severe bacterial and viral infections), destructive noninfectious granulomas involving skin, mucosa and internal organs, and various autoimmune manifestations (including cytopenias, vitiligo, psoriasis, myasthenia gravis, enteropathy). Immunophenotypically, T-cell and B-cell lymphopenia, hypogammaglobulinemia, abnormal specific antibody production and impaired T-cell function are observed.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| IFTAP | rs121917894 | CC       |
| IFTAP | rs193922574 | GG       |
| RAG1  | rs121918569 | GG       |
| RAG1  | rs121918570 | CC       |
| RAG1  | rs193922461 | GG       |
| RAG1  | rs193922464 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Severe combined immunodeficiency due to adenosine deaminase deficiency

Severe combined immunodeficiency (SCID) due to adenosine deaminase (ADA) deficiency is a form of SCID characterized by profound lymphopenia and very low immunoglobulin levels of all isotypes resulting in severe and recurrent opportunistic infections.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ADA  | rs121908716 | CC       |
| ADA  | rs199422327 | AA       |
| ADA  | rs121908715 | GG       |
| ADA  | rs121908739 | AA       |
| ADA  | rs121908723 | CC       |
| ADA  | rs121908735 | GG       |
| ADA  | rs121908725 | GG       |
| ADA  | rs749484894 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Severe combined immunodeficiency due to DCLRE1C deficiency

Severe combined immunodeficiency (SCID) due to DCLRE1C deficiency is a type of SCID characterized by severe and recurrent infections, diarrhea, failure to thrive, and cell sensitivity to ionizing radiation.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| DCLRE1C | rs121908156 | GG       |
| DCLRE1C | rs121908157 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# T-B+ severe combined immunodeficiency due to gamma chain deficiency

Severe combined immunodeficiency (SCID) due to gamma chain deficiency, also called SCID-X1, is a form of SCID characterized by severe and recurrent infections, associated with diarrhea and failure to thrive.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| CXorf65 | rs111033617 | CC       |
| CXorf65 | rs137852508 | GG       |
| IL2RG   | rs193922346 | CC       |
| IL2RG   | rs193922347 | TT       |
| IL2RG   | rs193922348 | AA       |
| IL2RG   | rs193922350 | CC       |
| IL2RG   | rs869320660 | CC       |
| IL2RG   | rs869320659 | GG       |
| IL2RG   | rs869320658 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Combined immunodeficiency due to partial RAG1 deficiency

Combined immunodeficiency due to partial RAG1 deficiency is a form of combined T and B cell immunodeficiency (CID; see this term) characterized by severe and persistent cytomegalovirus (CMV) infection and autoimmune cytopenia.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| RAG1 | rs104894287 | CC       |
| RAG1 | rs141524540 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Immunodeficiency due to a late component of complement deficiency

Immunodeficiency due to a late component of complement deficiency is a primary immunodeficiency due to an anomaly in either complement components C5, C6, C7, C8 or C9 and is typically characterized by meningitis due to often recurrent meningococcal infections. The prognosis is generally favorable.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| C7   | rs121964921 | GG       |
| C7   | rs531103546 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Immunodeficiency by defective expression of MHC class I

A rare autosomal recessive primary immunodeficiency characterized by severe reduction in the cell surface expression of HLA class I molecules, typically resulting in childhood-onset of chronic bacterial infections of the respiratory tract evolving to widespread bronchiectasis and respiratory insufficiency. Sterile necrotizing granulomatous skin lesions mainly involving the extremities and the midface may be observed in some patients. Severe viral infections do not occur as part of the condition. Atypical variants without respiratory or cutaneous manifestations, as well as asymptomatic individuals have been reported.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TAP1 | rs143800384 | GG       |
| TAP2 | rs765335850 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Acute infantile liver failure due to synthesis defect of mtDNAencoded proteins

A very rare mitochondrial respiratory chain deficiency characterized clinically by transient but life-threatening liver failure with elevated liver enzymes, jaundice, vomiting, coagulopathy, hyperbilirubinemia, and lactic acidemia.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TRMU | rs387907022 | GG       |
| TRMU | rs367683258 | CC       |
| TRMU | rs766314948 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Isolated cleft lip

Isolated cleft lip is a fissure type embryopathy extending from the upper lip to the nasal base.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TP63 | rs121908840 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Leprechaunism

Leprechaunism is a congenital form of extreme insulin resistance (a group of syndromes that also includes Rabson-Mensenhall syndrome, type A insulin-resistance syndrome, and acquired type B insulin-resistance syndrome; see these terms) characterized by intrauterine and mainly postnatal severe growth retardation.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| INSR | rs121913145 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Acute lymphoblastic leukemia

A rare disease characterized by malignant proliferation of lymphoid cells blocked at an early stage of differentiation and accounts for 75% of all cases of childhood leukaemia.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| JAK1 | rs869312953 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## B-cell chronic lymphocytic leukemia

B-cell chronic lymphocytic leukemia (B-CLL) is a type of Bcell non-Hodgkin lymphoma (see this term), and the most common form of leukemia in Western countries, affecting elderly adults (mean age of 67 and 72 years) with a slight male predominance (1.7:1), and characterized by a highly variable clinical presentation that can include asymptomatic disease or non-specific B-symptoms such as unintentional weight loss, severe fatigue, fever (without evidence of infection), and night sweats as well as cervical lymphadenopathy, splenomegaly and frequent infections. Some patients can also develop autoimmune complications such as autoimmune hemolytic anemia or immune thrombocytopenia (see these terms). The clinical course is extremely heterogeneous with survival ranging from a few months to several decades.

## Your genetic map

| Gene   | SNP          | Genotype |
|--------|--------------|----------|
| BRAF   | rs121913348  | CC       |
| LRRC56 | rs104894226  | CC       |
| PTPN11 | rs121918453  | GG       |
| TP53   | rs121912651  | GG       |
| TP53   | rs121913343  | GG       |
| TP53   | rs587781525  | TT       |
| TP53   | rs786201838  | TT       |
| TP53   | rs1057519981 | AA       |
| TP53   | rs764146326  | CC       |
| TP53   | rs1057519990 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Acute myeloid leukemia

A group of neoplasms arising from precursor cells committed to the myeloid cell-line differentiation. All of them are characterized by clonal expansion of myeloid blasts. They manifest by fever, pallor, anemia, hemorrhages and recurrent infections.

## Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| NRAS | rs121913250  | CC       |
| TERT | rs797046041  | GG       |
| TP53 | rs587780070  | GG       |
| TP53 | rs587782082  | TT       |
| TP53 | rs876660821  | AA       |
| TP53 | rs1057519747 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Juvenile myelomonocytic leukemia

myelodysplastic/myeloproliferative neoplasm characterized by a proliferation primarily of granulocytic and monocytic lineages with infiltration of the liver and spleen, among other organs. Blasts and promonocytes account for less than 20% of white blood cells in peripheral blood and bone marrow. Erythroid and megakaryocytic abnormalities are often present. BCR-ABL1 fusion is absent, while somatic mutations in genes of the RAS pathway or monosomy 7 may be found. The condition may also occur in the context of neurofibromatosis type 1 or Noonan syndrome-like disorder. Children of less than three years are predominantly affected, with a clear male preponderance. Most patients present with constitutional symptoms, signs of infection, hepatosplenomegaly.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| NRAS   | rs121434596 | CC       |
| PTPN11 | rs121918458 | TT       |
| PTPN11 | rs121918465 | AA       |
| PTPN11 | rs397507520 | GG       |
| PTPN11 | rs397507550 | GG       |
| PTPN11 | rs397507510 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# RARS-related autosomal recessive hypomyelinating leukodystrophy

A rare, genetic leukodystrophy characterized by developmental delay, increased muscle tone leading later to spasticity, mild ataxia, nystagmus, dysarthria, intentional tremor, and mild intellectual disability. Brain imaging reveals supratentorial and infratentorial hypomyelination.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| RARS1 | rs672601375 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hereditary diffuse leukoencephalopathy with axonal spheroids and pigmented glia

Hereditary diffuse leukoencephalopathy with axonal spheroids and pigmented glia is a rare autosomal dominant disease characterized by a complex phenotype including progressive dementia, apraxia, apathy, impaired balance, parkinsonism, spasticity and epilepsy.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CSF1R | rs281860274 | AA       |
| CSF1R | rs587777247 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Lymphangioleiomyomatosis

Lymphangioleiomyomatosis (LAM) is a multiple cystic lung disease characterized by progressive cystic destruction of the lung and lymphatic abnormalities, frequently associated with renal angiomyolipomas (AMLs). LAM occurs either sporadically or as a manifestation of tuberous sclerosis complex (TSC).

## Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| TSC1 | rs118203387  | CC       |
| TSC2 | rs45517403   | AA       |
| TSC2 | rs1131691965 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Familial partial lipodystrophy, Dunnigan type

A rare, genetic lipodystrophy characterized by a loss of subcutaneous adipose tissue from the trunk, buttocks and limbs; fat accumulation in the neck, face, axillary and pelvic regions; muscular hypertrophy; and usually associated with metabolic complications such as insulin resistance, diabetes mellitus, dyslipidemia and liver steatosis.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| LMNA | rs60864230  | GG       |
| LMNA | rs57920071  | CC       |
| LMNA | rs267607555 | CC       |
| LMNA | rs59981161  | GG       |
| LMNA | rs267607543 | GG       |
| LMNA | rs57629361  | CC       |
| LMNA | rs56793579  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Late infantile neuronal ceroid lipofuscinosis

Late infantile neuronal ceroid lipofuscinoses (LINCLs) are a genetically heterogeneous group of neuronal ceroid lipofuscinoses (NCLs; see this term) typically characterized by onset during infancy or early childhood with decline of mental and motor capacities, epilepsy, and vision loss through retinal degeneration.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FBXL3 | rs121908292 | GG       |
| FBXL3 | rs386833980 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# ATP13A2-related juvenile neuronal ceroid lipofuscinosis

A rare neuronal ceroid lipofiscinosis disorder characterized by juvenile-onset of progressive spinocerebellar ataxia, bulbar syndrome (manifesting with dysarthria, dysphagia and dysphonia), pyramidal and extrapyramidal involvement (including myoclonus, amyotrophy, unsteady gait, akinesia, rigidity, dysarthric speech) and intellectual deterioration. Muscle biopsy displays autofluorescent bodies and lipofuscin deposits in brain and, occasionally the retina, upon post mortem.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| ATP13A2 | rs150519745 | CC       |
| ATP13A2 | rs758014228 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## X-linked lissencephaly with abnormal genitalia

X-linked lissencephaly with abnormal genitalia (XLAG) is a rare, genetic, central nervous system malformation disorder characterized, in males, by lissencephaly (with posterior predominance and moderately thickened cortex), complete absence of corpus callosum, neonatal-onset (mainly perinatal) intractable seizures, postnatal microcephaly, severe hypotonia, poor responsiveness and hypogonadism (micropenis, hypospadias, cryptorchidism, small scrotal sac). Defective temperature regulation and chronic diarrhea may be additionally observed.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ARX  | rs587783183 | AA       |
| ARX  | rs587783184 | GG       |
| ARX  | rs587783189 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Lissencephaly due to LIS1 mutation

Lissencephaly due to LIS1 mutation is a cerebral malformation with epilepsy characterized predominantly by posterior isolated lissencephaly with developmental delay, intellectual disability and epilepsy that usually evolves from West syndrome to Lennox-Gastaut syndrome. Additional features include muscular hypotonia, acquired microcephaly, failure to thrive and poor control of airways leading to aspiration pneumonia.

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=95232

# Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| DCX     | rs104894784 | CC       |
| DCX     | rs587783592 | GG       |
| PAFAH1B | rs121434483 | CC       |
| PAFAH1B | rs121434487 | GG       |
| PAFAH1B | rs113994203 | GG       |
| PAFAH1B | rs113994202 | TT       |
| PAFAH1B | rs587784265 | GG       |
| PAFAH1B | rs587784260 | CC       |
| PAFAH1B | rs587784262 | CC       |
| PAFAH1B | rs587784272 | TT       |
| PAFAH1B | rs587784250 | GG       |
| PAFAH1B | rs587784257 | GG       |
| PAFAH1B | rs587784258 | CC       |
| PAFAH1B | rs587784261 | TT       |
| PAFAH1B | rs587784263 | AA       |
| PAFAH1B | rs587784267 | CC       |
| PAFAH1B | rs587784269 | CC       |
| PAFAH1B | rs587784273 | CC       |
| PAFAH1B | rs587784276 | GG       |
| PAFAH1B | rs587784281 | GG       |
| PAFAH1B | rs587784280 | GG       |
| PAFAH1B | rs587784282 | CC       |
| PAFAH1B | rs587784286 | CC       |
| PAFAH1B | rs587784287 | AA       |
| PAFAH1B | rs587784288 | TT       |
| PAFAH1B | rs587784291 | GG       |
| PAFAH1B | rs587784290 | GG       |
| PAFAH1B | rs587784293 | CC       |
| PAFAH1B | rs587784294 | TT       |
| PAFAH1B | rs587784235 | GG       |
| PAFAH1B | rs587784239 | GG       |



# Lissencephaly due to TUBA1A mutation

Lissencephaly (LIS) due to TUBA1A mutation is a congenital cortical development anomaly due to abnormal neuronal migration involving neocortical and hippocampal lamination, corpus callosum, cerebellum and brainstem. A large clinical spectrum can be observed, from children with severe epilepsy and intellectual and motor deficit to cases with severe cerebral dysgenesis in the antenatal period leading to pregnancy termination due to the severity of the prognosis.

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=171680

# Your genetic map

| Gene   | SNP          | Genotype |
|--------|--------------|----------|
| TUBA1A | rs137853043  | GG       |
| TUBA1A | rs137853044  | CC       |
| TUBA1A | rs137853049  | GG       |
| TUBA1A | rs137853050  | CC       |
| TUBA1A | rs587784483  | GG       |
| TUBA1A | rs587784482  | GG       |
| TUBA1A | rs587784481  | TT       |
| TUBA1A | rs587784497  | AA       |
| TUBA1A | rs587784495  | TT       |
| TUBA1A | rs587784494  | CC       |
| TUBA1A | rs587784492  | TT       |
| TUBA1A | rs587784488  | AA       |
| TUBA1A | rs587784485  | GG       |
| TUBA1A | rs587784491  | CC       |
| TUBA1A | rs797046071  | CC       |
| TUBA1A | rs797046073  | CC       |
| TUBA1A | rs797046072  | TT       |
| TUBA1A | rs863224938  | CC       |
| TUBA1A | rs1057517843 | CC       |



# Lissencephaly type 1 due to doublecortin gene mutation

Type 1 lissencephaly due to doublecortin (DCX) gene mutations is a semi-dominant X-linked disease characterised by intellectual deficiency and seizures that are more severe in male patients.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DCX  | rs104894780 | GG       |
| DCX  | rs104894782 | GG       |
| DCX  | rs56030372  | CC       |
| DCX  | rs587783590 | GG       |
| DCX  | rs587783589 | CC       |
| DCX  | rs587783568 | GG       |
| DCX  | rs587783534 | GG       |
| DCX  | rs797045512 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Lysinuric protein intolerance

Lysinuric protein intolerance (LPI) is a very rare inherited multisystem condition caused by distrubance in amino acid metabolism.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SLC7A7 | rs121908678 | GG       |
| SLC7A7 | rs121908679 | CC       |
| SLC7A7 | rs386833823 | GG       |
| SLC7A7 | rs146582474 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Malaria

A life-threatening parasitic disease caused by Plasmodium (P. ) parasites that are transmitted by Anophles mosquito bites to humans and is typically clinically characterized by attacks of fever, headache, chills and vomiting.

## Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| G6PD | rs72554664 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### **MELAS**

A rare neurometabolic genetic disorder which is progressive and multisystemic due to mitochondrial dysfunction and that is characterized by encephalomyopathy, lactic acidosis, and stroke-like episodes.

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=550

# Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| MT TA  | rs121434458 | GG       |
| MT TF  | rs118203885 | GG       |
| MTTG   | rs121434475 | TT       |
| MTTH   | rs121434474 | GG       |
| MT TL1 | rs199474657 | AA       |
| MT TL1 | rs199474658 | TT       |
| MT TL1 | rs199474660 | CC       |
| MT TL1 | rs199474661 | AA       |
| MT TL1 | rs199474662 | AA       |
| MT TL1 | rs199474663 | AA       |
| MT TL2 | rs121434462 | GG       |
| MT TP  | rs199474701 | GG       |
| MT TS2 | rs118203889 | GG       |
| MTTW   | rs199474673 | GG       |
| MTTW   | rs199474674 | GG       |
| ND1    | rs199476123 | GG       |
| ND5    | rs267606897 | GG       |
| ND5    | rs267606898 | GG       |
| ND6    | rs199476107 | GG       |
| NDUFS1 | rs786205666 | AA       |



### Metachondromatosis

Metachondromatosis (MC) is a rare disorder characterized by the presence of both multiple enchondromas and osteochondroma-like lesions.

# Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| PTPN11 | rs267606989 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Microlissencephaly

Microlissencephaly describes a heterogenous group of a rare cortical malformations characterized by lissencephaly in combination with severe congenital microcephaly, presenting with spasticity, severe developmental delay, and seizures and with survival varying from days to years.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| NDE1 | rs576928842 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Infantile hypertrophic cardiomyopathy due to MRPL44 deficiency

A rare mitochondrial oxidative phosphorylation disorder with complex I and IV deficiency characterized by hypertrophic cardiomyopathy, hepatic steatosis with elevated liver transaminases, exercise intolerance and muscle weakness. Neuro-opthalmological features (hemiplegic migraine, Leigh-like lesions on brain MRI, pigmentary retinopathy) have been reported later in life.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| MRPL44 | rs143697995 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Mitochondrial hypertrophic cardiomyopathy with lactic acidosis due to MTO1 deficiency

A rare mitochondrial oxidative phosphorylation disorder with complex I and IV deficiency characterized by lactic acidosis, hypotonia, hypertrophic cardiomyopathy and global developmental delay. Other clinical features include feeding difficulties, failure to thrive, seizures, optic atrophy and ataxia.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MTO1 | rs201544686 | GG       |
| MTO1 | rs200583827 | CC       |
| MTO1 | rs775623164 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Familial isolated restrictive cardiomyopathy

A rare genetic cardiac disease characterized by restrictive ventricular filling due to high ventricular stiffness that results in severe diastolic dysfunction in the absence of dilated or hypertrophied ventricles.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TNNI3 | rs104894724 | GG       |
| TNNI3 | rs104894729 | CC       |
| TNNI3 | rs104894730 | TT       |
| TNNI3 | rs727503504 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Infantile myofibromatosis

A rare benign soft tissue tumor characterized by the development of nodules in the skin, striated muscles, bones, and in exceptional cases, visceral organs, leading to a broad spectrum of clinical symptoms. It contains myofibroblasts.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| PDGFRB | rs367543286 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Autosomal dominant centronuclear myopathy**

A rare, autosomal dominant congenital myopathy characterized by numerous centrally placed nuclei on muscle biopsy and clinical features of a congenital myopathy (hypotonia, distal/proximal muscle weakness, rib cage deformities (sometimes associated with respiratory insufficiency), ptosis, ophthalmoparesis and weakness of the muscles of facial expression with dysmorphic facial features.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DNM2 | rs121909089 | GG       |
| DNM2 | rs121909090 | CC       |
| DNM2 | rs121909091 | CC       |
| DNM2 | rs121909092 | GG       |
| DNM2 | rs587783594 | TT       |
| DNM2 | rs587783595 | GG       |
| DNM2 | rs587783597 | TT       |
| DNM2 | rs587783598 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# X-linked centronuclear myopathy

A rare X-linked congenital myopathy characterized by numerous centrally placed nuclei on muscle biopsy and that presents at birth with marked weakness, hypotonia and respiratory failure.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DNM2 | rs121909095 | CC       |
| MTM1 | rs132630302 | AA       |
| MTM1 | rs132630304 | CC       |
| MTM1 | rs397518445 | AA       |
| MTM1 | rs132630305 | CC       |
| MTM1 | rs132630306 | CC       |
| MTM1 | rs398123272 | GG       |
| MTM1 | rs398123275 | CC       |
| MTM1 | rs587783817 | TT       |
| MTM1 | rs587783823 | GG       |
| MTM1 | rs587783843 | GG       |
| MTM1 | rs587783844 | AA       |
| MTM1 | rs587783846 | GG       |
| MTM1 | rs587783857 | CC       |
| MTM1 | rs587783753 | CC       |
| MTM1 | rs587783796 | GG       |
| MTM1 | rs587783809 | CC       |
| MTM1 | rs587783810 | GG       |
| MTM1 | rs587783814 | CC       |
| MTM1 | rs587783813 | AA       |
| MTM1 | rs587783812 | GG       |
| MTM1 | rs587783816 | TT       |
| MTM1 | rs587783820 | AA       |
| MTM1 | rs587783825 | CC       |
| MTM1 | rs587783828 | GG       |
| MTM1 | rs587783830 | GG       |
| MTM1 | rs587783831 | AA       |
| MTM1 | rs587783832 | CC       |
| MTM1 | rs587783834 | GG       |
| MTM1 | rs587783835 | AA       |
| MTM1 | rs587783836 | CC       |
|      |             |          |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# X-linked myopathy with excessive autophagy

X-linked myopathy with excessive autophagy is a childhoodonset X-linked myopathy characterised by slow progression of muscle weakness and unique histopathological findings.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| VMA21 | rs797044909 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Polyglucosan body myopathy type 2

A rare glycogen storage disease characterized by slowly progressive myopathy with storage of polyglucosan in muscle fibers. Age of onset ranges from childhood to late adulthood. Patients present proximal or proximodistal weakness predominantly of limb-girdle muscles. Variable features include exercise intolerance or myalgia. Serum creatine kinase is normal or mildly elevated. There is usually no overt cardiac involvement.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GYG1 | rs370652040 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Reducing body myopathy

Reducing body myopathy (RBM) is a rare muscle disorder marked by progressive muscle weakness and the presence of characteristic inclusion bodies in affected muscle fibres.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FHL1 | rs122459146 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Congenital fiber-type disproportion myopathy

A rare genetic, congenital, non-dystrophic myopathy characterized by neonatal or infantile-onset hypotonia and mild to severe generalized muscle weakness.

## Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| MYH7 | rs1060505018 | CC       |
| RYR1 | rs772494345  | GG       |
| RYR1 | rs1057518940 | GG       |
| RYR1 | rs142929172  | GG       |
| RYR1 | rs193922810  | GG       |
| TPM3 | rs121964854  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Bethlem myopathy**

Bethlem myopathy is a benign autosomal dominant form of slowly progressive muscular dystrophy.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL6A1 | rs121912936 | AA       |
| COL6A1 | rs398123631 | GG       |
| COL6A1 | rs121912938 | GG       |
| COL6A1 | rs121912939 | GG       |
| COL6A1 | rs398123639 | AA       |
| COL6A1 | rs398123640 | GG       |
| COL6A1 | rs398123643 | GG       |
| COL6A1 | rs398123644 | GG       |
| COL6A1 | rs794727060 | TT       |
| COL6A1 | rs797045477 | AA       |
| COL6A2 | rs267606750 | GG       |
| COL6A2 | rs387906609 | CC       |
| COL6A2 | rs397515333 | GG       |
| COL6A2 | rs727502827 | GG       |
| COL6A2 | rs727502828 | GG       |
| COL6A2 | rs138948335 | GG       |
| COL6A2 | rs794727715 | GG       |
| COL6A2 | rs794727788 | GG       |
| COL6A2 | rs794727855 | GG       |
| COL6A2 | rs770842374 | TT       |
| COL6A3 | rs121434553 | CC       |
| COL6A3 | rs794727188 | CC       |
| COL6A3 | rs886043737 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Miyoshi myopathy

A recessive distal myopathy characterized by weakness in the distal lower extremity posterior compartment (gastrocnemius and soleus muscles) and associated with difficulties in standing on tip toes.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DYSF | rs121908953 | CC       |
| DYSF | rs121908958 | GG       |
| DYSF | rs398123792 | AA       |
| DYSF | rs758180890 | CC       |
| DYSF | rs121908963 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Distal myopathy with anterior tibial onset

Distal myopathy with anterior tibial onset is a rare, genetic neuromuscular disease characterized by a progressive muscle weakness starting in the anterior tibial muscles, later involving lower and upper limb muscles, associated with an increased serum creatine kinase levels and absence of dysferlin on muscle biopsy. Patients become wheelchair dependent.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DYSF | rs121908959 | CC       |
| DYSF | rs398123773 | CC       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Laing early-onset distal myopathy

Laing distal myopathy, also called myopathy distal, type 1 (MPD1), is characterized by early-onset selective weakness of the great toe and ankle dorsiflexors, and a very slowly progressive course.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MHRT | rs121913647 | CC       |
| MHRT | rs397516248 | CC       |
| MHRT | rs397516254 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Progressive scapulohumeroperoneal distal myopathy

A rare genetic muscular dystrophy characterized by progressive muscle weakness in a scapulo-humero-peroneal and distal distribution, featuring wrist extensor weakness, finger and foot drop, scapular winging, mild facial weakness, contractures of the Achilles tendon, elbow, and shoulder, and diminished or absent deep tendon reflexes. A predilection for the upper extremities has been reported in some patients. Respiratory muscles are spared until late in the disease course. Age of onset, progression, and severity of the disease vary significantly between individuals. Muscle biopsy shows groups of atrophic type I fibers and increased internal nuclei.

# Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ACTA1 | rs869312739 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **GNE** myopathy

GNE myopathy is a rare autosomal recessive distal myopathy characterized by early adult-onset, slowly to moderately progressive distal muscle weakness that preferentially affects the tibialis anterior muscle and that usually spares the quadriceps femoris. Muscle biopsy reveals presence of rimmed vacuoles.

## Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| GNE  | rs28937594   | AA       |
| GNE  | rs121908629  | CC       |
| GNE  | rs121908632  | CC       |
| GNE  | rs62541771   | GG       |
| GNE  | rs139425890  | TT       |
| GNE  | rs748949603  | AA       |
| GNE  | rs773729410  | GG       |
| GNE  | rs779694939  | AA       |
| GNE  | rs745517517  | GG       |
| GNE  | rs1209266607 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Hereditary myopathy with early respiratory failure

A rare genetic neuromuscular disease characterized by adult onset of slowly progressive distal and/or proximal muscle weakness in the upper and lower extremities, and early involvement of respiratory muscles leading to respiratory failure. Additional features are neck flexor weakness, foot extensor weakness, and, in rare cases, mildly impaired cardiac function. Muscle biopsy shows eosinophilic myofibrillar inclusions referred to as cytoplasmic bodies, as well as fiber size variation, increased internal nuclei and connective tissue, fiber splitting, and rimmed vacuoles.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| TTN AS1 | rs869320740 | AA       |
| TTN AS1 | rs753334568 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Mitochondrial myopathy with reversible cytochrome C oxidase deficiency

A rare, genetic, mitochondrial oxidative phosphorylation disorder characterized by a potentially life-threatening, severe myopathy manifesting in the neonatal to early infantile period, followed by marked, spontaneous improvement of muscular function by early childhood. Associated biochemical findings include lactic acidosis and a transient, marked decrease in respiratory chain activity.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CYTB | rs207459997 | GG       |
| CYTB | rs207459998 | GG       |
| CYTB | rs207460002 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Multiminicore myopathy

A rare hereditary neuromuscular disorder characterized by multiple cores on muscle biopsy and clinical features of a congenital myopathy.

# Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| RYR1 | rs118192173  | CC       |
| RYR1 | rs118192174  | TT       |
| RYR1 | rs193922803  | CC       |
| RYR1 | rs193922809  | GG       |
| RYR1 | rs200563280  | CC       |
| RYR1 | rs878854365  | CC       |
| RYR1 | rs111436401  | GG       |
| RYR1 | rs1057524858 | GG       |
| RYR1 | rs1432807966 | CC       |
| RYR1 | rs1346257891 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Severe congenital nemaline myopathy

Severe congenital nemaline myopathy is a severe form of nemaline myopathy (NM; see this term) characterized by severe hypotonia with little spontaneous movement in neonates.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| KLHL40 | rs397509419 | GG       |
| KLHL40 | rs367579275 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Inclusion body myopathy with Paget disease of bone and frontotemporal dementia

Inclusion body myopathy with Paget disease of bone and frontotemporal dementia (IBMPFD) is a multisystem degenerative genetic disorder characterized by adult-onset proximal and distal muscle weakness (clinically resembling limb-girdle muscular dystrophy; see this term); early-onset Paget disease of bone (see this term), manifesting with bone pain, deformity and enlargement of the long-bones; and premature frontotemporal dementia (see this term), manifesting first with dysnomia, dyscalculia comprehension deficits followed by progressive aphasia, alexia, and agraphia. As the disease progresses, muscle weakness begins to affect the other limbs and respiratory muscles, ultimately resulting in respiratory or cardiac failure.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| VCP  | rs121909330 | GG       |
| VCP  | rs121909335 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Potassium-aggravated myotonia

A muscular channelopathy presenting with a pure myotonia dramatically aggravated by potassium ingestion, with variable cold sensitivity and no episodic weakness. This group includes three forms: myotonia fluctuans, myotonia permanens, and acetazolamide-responsive myotonia.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1053 | rs121908552 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### MODY

MODY (maturity-onset diabetes of the young) is a rare, familial, clinically and genetically heterogeneous form of diabetes characterized by young age of onset (generally 10 -45 years of age) with maintenance of endogenous insulin production, lack of pancreatic beta-cell autoimmunity, absence of obesity and insulin resistance and extrapancreatic manifestations in some subtypes.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| HNF4A | rs193922470 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Complete hydatidiform mole

Complete hydatidiform mole is a type of hydatiform mole characterized by abnormal hyperplastic trophoblasts and hydropic villi due to fertilization of an enucleated ovocyte by one or two haploid spermatozoa that can manifest with vaginal bleeding accompanied by nausea and frequent vomiting, hyperemesis gravidarum, risk of spontaneous miscarriage, hyperthyroidism, and has the potential of developing into choriocarcinoma (see this term).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| NLRP7 | rs104895506 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



#### **MPI-CDG**

MPI-CDG is a form of congenital disorders of N-linked glycosylation, characterized by cyclic vomiting, profound hypoglycemia, failure to thrive, liver fibrosis, gastrointestinal complications (protein-losing enteropathy with hypoalbuminaemia, life-threatening intestinal bleeding of diffuse origin), and thrombotic events (protein C and S deficiency, low anti-thrombine III levels), whereas neurological development and cognitive capacity is usually normal. The clinical course is variable even within families. The disease is caused by loss of function of the gene MPI (15q24.1).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MPI  | rs104894489 | GG       |
| MPI  | rs28928906  | GG       |
| MPI  | rs863225086 | AA       |
| MPI  | rs863225087 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Mucolipidosis type III

A rare lysosomal disease characterized by dysmorphic features and skeletal changes, restricted joint mobility, short stature, and hand deformities (such as claw hands, stiffness of hands, carpal tunnel syndrome, inability to make fists). Most patients have normal intellectual capacity and the clinical progression is less rapid than that of mucolipidosis type II (MLII).

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| GNPTAB | rs137852897 | GG       |
| GNPTAB | rs281864969 | GG       |
| GNPTAB | rs281864980 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Mucopolysaccharidosis type 1

Mucopolysaccharidosis type 1 (MPS 1) is a rare lysosomal storage disease belonging to the group of mucopolysaccharidoses. There are three variants, differing widely in their severity, with Hurler syndrome being the most severe, Scheie syndrome the mildest and Hurler-Scheie syndrome giving an intermediate phenotype.

# Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| IDUA    | rs121965021 | CC       |
| IDUA    | rs398123256 | GG       |
| IDUA    | rs199801029 | GG       |
| IDUA    | rs794727701 | GG       |
| IDUA    | rs777295041 | AA       |
| SLC26A1 | rs121965020 | CC       |
| SLC26A1 | rs398123259 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Mucopolysaccharidosis type 2

A lysosomal storage disease with multisystemic involvement leading to a massive accumulation of glycosaminoglycans and a wide variety of symptoms including distinctive coarse facial features, short stature, cardio-respiratory involvement and skeletal abnormalities. It manifests as a continuum varying from a severe form with neurodegeneration to an attenuated form without neuronal involvement.

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=580

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| IDS  | rs199422227 | GG       |
| IDS  | rs104894853 | GG       |
| IDS  | rs113993948 | GG       |
| IDS  | rs199422231 | GG       |
| IDS  | rs113993946 | CC       |
| IDS  | rs864622773 | TT       |
| IDS  | rs864622777 | CC       |
| IDS  | rs864622771 | AA       |
| IDS  | rs193302912 | CC       |
| IDS  | rs113993953 | TT       |
| IDS  | rs193302907 | CC       |
| IDS  | rs864622778 | CC       |
| IDS  | rs113993945 | GG       |
| IDS  | rs864622779 | CC       |
| IDS  | rs193302904 | CC       |
| IDS  | rs113993947 | CC       |
| IDS  | rs193302908 | GG       |
| IDS  | rs193302910 | CC       |
| IDS  | rs781997631 | AA       |
| IDS  | rs113993955 | AA       |



## Mucopolysaccharidosis type 3

Mucopolysaccharidosis type III (MPS III) is a lysosomal storage disease belonging to the group of mucopolysaccharidoses and characterised by severe and rapid intellectual deterioration.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SGSH | rs104894635 | CC       |
| SGSH | rs104894636 | GG       |
| SGSH | rs104894641 | CC       |
| SGSH | rs104894637 | GG       |
| SGSH | rs104894638 | CC       |
| SGSH | rs104894639 | CC       |
| SGSH | rs104894640 | CC       |
| SGSH | rs138504221 | AA       |
| SGSH | rs143947056 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Mucopolysaccharidosis type 4

A rare lysosomal storage disease characterized by mild to severe spondylo-epiphyso-metaphyseal dysplasia, manifesting with disproportionate short stature (short neck and trunk), joint laxity, pectus carinatum, genum valgum, abnormal gait, tracheal narrowing, spinal abnormalities (kyphosis and scoliosis), respiratory impairment and valvular heart disease.

# Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| GALNS   | rs118204438 | TT       |
| GALNS   | rs118204443 | CC       |
| GALNS   | rs118204444 | GG       |
| GALNS   | rs372893383 | CC       |
| GALNS   | rs398123438 | CC       |
| GALNS   | rs398123440 | GG       |
| GALNS   | rs746756997 | AA       |
| LOC1079 | rs118204437 | GG       |
| LOC1079 | rs398123429 | TT       |
| LOC1079 | rs398123430 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Mucopolysaccharidosis type 6

Mucopolysaccharidosis type 6 (MPS 6) is a lysosomal storage disease with progressive multisystem involvement, associated with a deficiency of arylsulfatase B (ASB) leading to the accumulation of dermatan sulfate.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ARSB | rs118203943 | TT       |
| ARSB | rs431905495 | CC       |
| ARSB | rs398123125 | CC       |
| ARSB | rs727503809 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Mucopolysaccharidosis type 7

A rare, genetic lysosomal storage disease characterized by accumulation of glycosaminoglycans in connective tissue which results in progressive multisystem involvement with severity ranging from mild to severe. The most consistent features include musculoskeletal involvement (particularly dysostosis multiplex, joint restriction, thorax abnormalities, and short stature), limited vocabulary, intellectual disability, coarse facies with a short neck, pulmonary involvement (predominantly decreased pulmonary function), corneal clouding, and cardiac valve disease.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GUSB | rs121918172 | GG       |
| GUSB | rs121918173 | GG       |
| GUSB | rs121918181 | GG       |
| GUSB | rs121918185 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Multiple endocrine neoplasia type 2

A rare multiple endocrine neoplasia (MEN) syndrome that is principally characterized by the association of medullary thyroid carcinoma (MTC) with other endocrine tumors. The variant MEN 2A is defined by MTC associated with pheochromocytoma and/or primary hyperparathyroidism (MEN2A); the variant MEN 2B is defined as an aggressive form of MTC in association with pheochromocytoma but without primary hyperparathyroidism.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| RET  | rs74799832 | TT       |
| RET  | rs78014899 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Mitochondrial membrane protein-associated neurodegeneration

A rare neurodegenerative disorder characterized by iron accumulation in specific regions of the brain, usually the basal ganglia, and associated with slowly progressive pyramidal (spasticity) and extrapyramidal (dystonia) signs, motor axonal neuropathy, optic atrophy, cognitive decline, and neuropsychiatric abnormalities.

### Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| C19orf12 | rs397514477 | GG       |
| C19orf12 | rs515726205 | CC       |
| C19orf12 | rs752450983 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Neurofibromatosis type 6

Neurofibromatosis type 6 (NF6), also referred as cafe-au-lait spots syndrome, is a cutaneous disorder characterized by the presence of several cafe-au-lait (CAL) macules without any other manifestations of neurofibromatosis or any other systemic disorder.

## Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| NF1  | rs1057518904 | AA       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Neurofibromatosis-Noonan syndrome

Neurofibromatosis-Noonan syndrome (NFNS) is RASopathy and a variant of neurofibromatosis type 1 (NF1) characterized by the combination of features of NF1, such as cafe-au-lait spots, iris Lisch nodules, axillary and inquinal freckling, optic nerve glioma and multiple neurofibromas, and Noonan syndrome (NS), such as short stature, typical facial features (hypertelorism, ptosis, downslanting palpebral fissures, low-set posteriorly rotated ears with a thickened helix, and a broad forehead), congenital heart defects and unusual pectus deformity. As these three entities have significant phenotypic overlap, molecular genetic testing is often necessary for a correct diagnosis (such as when cafeau-lait spots are present in patients diagnosed with NS).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| NF1  | rs199474789 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Navajo neurohepatopathy

A rare, life-threatening, mitochondrial DNA depletion syndrome disease characterized by severe, progressive sensorimotor neuropathy associated with corneal ulceration, scarring or anesthesia, acral mutilation, metabolic and immunologic derangement, and hepatopathy (which can manifest with fulminant hepatic failure, a Reye-like syndrome or indolent progression to liver cirrhosis, depending on clinical form involved), present in the Navajo Native American population. Clinical presentation includes failure to thrive, distal limb weakness with reduced sensation, limb contractures with loss of funtion, areflexia, recurrent metabolic acidosis with intercurrent illness, immunologic anomalies manifesting with severe systemic infections, and sexual infantilism.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MPV17 | rs121909721 | CC       |
| MPV17 | rs121909723 | GG       |
| MPV17 | rs267607258 | GG       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal recessive axonal neuropathy with neuromyotonia

A rare peripheral neuropathy characterized by slowly progressive axonal, motor greater than sensory, polyneuropathy combined with neuromytonia (including spontaneous muscular activity at rest (myokymia), impaired muscle relaxation (pseudomyotonia), and contractures of hands and feet) and neuromyotonic or myokymic discharges on needle EMG. It presents with distal lower limb weakness with gait impairment, muscle stiffness, fasciculations and cramps in hands and legs worsened by cold, decreased to absent tendon reflexes, intrinsic hand muscle atrophy and, variably, mild distal sensory impairment.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| HINT1 | rs149782619 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Leber hereditary optic neuropathy

A rare hereditary optic neuropathy characterized by sudden onset, painless central vision loss, loss of retinal ganglion cells and optic atrophy.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ND1  | rs397515507 | GG       |
| ND6  | rs199476104 | TT       |
| ND6  | rs199476106 | AA       |
| ND6  | rs397515506 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Autosomal recessive severe congenital neutropenia due to CSF3R deficiency

Autosomal recessive severe congenital neutropenia due to CSF3R deficiency is a rare, genetic, primary immunodeficiency disorder characterized by predisposition to recurrent, life-threatening bacterial infections associated with decreased peripheral neutrophil granulocytes (absolute neutrophil count less than 500 cells/microliter), resulting from recessively inherited loss-of-function mutations in the CSF3R gene. Full maturation of all three lineages in the bone marrow and refractoriness to in vivo rhG-CSF treatment are associated.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CSF3R | rs138156467 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal recessive severe congenital neutropenia due to JAGN1 deficiency

Autosomal recessive severe congenital neutropenia due to deficiency JAGN1 is а rare, genetic, primary immunodeficiency disorder characterized by early-onset, severe bacterial infections, granulopoiesis recurrent, maturation arrest at the promyelocyte/myelocyte stage and markedly reduced absolute neutrophil counts, resulting from recessively inherited mutations in the JAGN1 gene. Mild facial dysmorphism (i.e. triangular face), short stature, failure to thrive, hypothyroidism, developmental delay, pancreatic insufficiency and coractation of aorta, as well as bone and urogenital abnormalities, may also be associated.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| JAGN1 | rs587777728 | CC       |
| JAGN1 | rs587777730 | AA       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Woolly hair nevus

Woolly hair nevus (WHN) is a rare non-familial hair anomaly characterized by kinky, tightly coiled, and hypopigmented fine hair with an average diameter of 0.5 cm, noted, since birth or during the first two years of life, in a localized circumscribed distribution on the scalp. Occassionally, WHN grows in areas observed to be alopecic in the neonatal period. WHN can be associated with features like ocular defects (persistent pupillary membrane, retinal defects), precocious puberty, and epidermal nevi.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| NRAS | rs121913237 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Obesity due to leptin receptor gene deficiency

A rare, genetic, non-syndromic, obesity disease characterized by severe, early-onset obesity, associated with major hyperphagia and endocrine abnormalities, resulting from leptin receptor deficiency.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| LEPR | rs144159890 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Obesity due to melanocortin 4 receptor deficiency

Melanocortin 4 receptor (MC4R) deficiency is the commonest form of monogenic obesity identified so far. MC4R deficiency is characterised by severe obesity, an increase in lean body mass and bone mineral density, increased linear growth in early childhood, hyperphagia beginning in the first year of life and severe hyperinsulinaemia, in the presence of preserved reproductive function.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MC4R | rs121913564 | AA       |
| MC4R | rs52804924  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal recessive progressive external ophthalmoplegia

A rare genetic, neuro-ophthalmological disease characterized by progressive weakness of the external eye muscles, resulting in bilateral ptosis and diffuse, symmetric ophthalmoparesis. Additional signs may include generalized skeletal muscle weakness, muscle atrophy, sensory axonal neuropathy, ataxia, cardiomyopathy, and psychiatric symptoms. It is usually more severe than autosomal dominant form.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| MIR6766 | rs113994095 | CC       |
| POLG    | rs113994098 | CC       |
| POLG    | rs121918054 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Hypertrichotic osteochondrodysplasia, Cantu type

Cantu syndrome is a rare disorder characterized by congenital hypertrichosis, osteochondrodysplasia, cardiomegaly, and dysmorphism.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ABCC9 | rs387907208 | GG       |
| ABCC9 | rs387907209 | CC       |
| ABCC9 | rs387907227 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Multiple osteochondromas**

A primary bone disorder characterized by development of two or more cartilage capped bony outgrowths (osteochondromas) at the surface of the bones.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| EXT1 | rs119103287 | CC       |
| EXT1 | rs119103290 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Osteopetrosis with renal tubular acidosis

Osteopetrosis with renal tubular acidosis is a rare disorder characterized by osteopetrosis (see this term), renal tubular acidosis (RTA), and neurological disorders related to cerebral calcifications.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| CA3 AS1 | rs573750741 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Albers-Schönberg osteopetrosis**

A sclerosing disorder of the skeleton characterized by increased bone density that classically displays the radiographic sign of "sandwich vertebrae" (dense bands of sclerosis parallel to the vertebral endplates).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CLCN7 | rs387907576 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Osteosarcoma

Osteosarcoma is a primary malignant tumour of the skeleton characterised by the direct formation of immature bone or osteoid tissue by the tumour cells.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| TP53 | rs28934573 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Hereditary chronic pancreatitis

A rare gastroenterologic disease characterized by recurrent acute pancreatitis and/or chronic pancreatitis in at least 2 first-degree relatives, or 3 or more second-degree relatives in 2 or more generations, for which no predisposing factors are identified. This rare inherited form of pancreatitis leads to irreversible damage to both exocrine and endocrine components of the pancreas.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CTRC  | rs121909294 | GG       |
| PRSS1 | rs111033565 | GG       |
| PRSS1 | rs111033567 | AA       |
| PRSS1 | rs111033568 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Non-acquired panhypopituitarism

A rare genetic pituitary disease characterized by variable deficiency of all hormones produced in the anterior lobe of the pituitary gland. Clinical manifestations include hypothyroidism, hypogonadism, growth retardation and short stature, and secondary adrenal insufficiency. Age of onset is variable. Signs and symptoms usually develop gradually, and loss of the different hormones is often sequential.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PROP1 | rs121917839 | GG       |
| PROP1 | rs121917840 | AA       |
| PROP1 | rs121917843 | GG       |
| PROP1 | rs121917845 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Pachydermoperiostosis**

Pachydermoperiostosis (PDP) is a form of primary hypertrophic osteoarthropathy (see this term), a rare hereditary disorder, and is characterized by digital clubbing, pachydermia and subperiosteal new bone formation associated with pain, polyarthritis, cutis verticis gyrata, seborrhea and hyperhidrosis. Three forms have been described: a complete form with pachydermia and periostitis, an incomplete form with evidence of bone abnormalities but lacking pachydermia, and a forme frusta with prominent pachydermia and minimal-to-absent skeletal changes.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLCO2A1 | rs776813259 | GG       |
| SLCO2A1 | rs765249238 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Pachyonychia congenita

Pachyonychia congenita (PC) is a rare genodermatosis predominantly featuring painful palmoplantar keratoderma, thickened nails, cysts and whitish oral mucosa.

### Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| KRT16 | rs60944949 | AA       |
| KRT16 | rs58293603 | AA       |
| KRT16 | rs59328451 | TT       |
| KRT16 | rs28928894 | AA       |
| KRT16 | rs58608173 | TT       |
| KRT16 | rs59856285 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Hypokalemic periodic paralysis

A rare genetic, muscle channelopathy characterized by recurrent episodic attacks of generalized muscle weakness associated with a decrease in blood potassium levels.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| CACNA1S | rs28930068  | CC       |
| CACNA1S | rs28930069  | GG       |
| CACNA1S | rs80338777  | CC       |
| CACNA1S | rs267606698 | AA       |
| CACNA1S | rs797045031 | TT       |
| CACNA1S | rs770073633 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Paramyotonia congenita of Von Eulenburg

Paramyotonia congenita of Von Eulenburg is characterised by exercise- or cold-induced myotonia and muscle weakness. Prevalence is unknown. The syndrome is nonprogressive and is transmitted as an autosomal dominant trait. It is caused by mutations in the gene encoding the alpha subunit of the type IV voltage-gated sodium channel (SCN4A; 17q23.3).

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1053 | rs80338956  | AA       |
| SCN4A   | rs121908544 | GG       |
| SCN4A   | rs121908547 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal dominant spastic paraplegia type 10

A rare, hereditary spastic paraplegia that can present as either a pure or complex phenotype. The pure form is characterized by lower limb spasticity, hyperreflexia and extensor plantar responses, presenting in childhood or adolescence. The complex form is characterized by the association with additional manifestations including peripheral neuropathy with upper limb muscle atrophy, moderate intellectual disability and parkinsonism. Deafness and retinitis pigmentosa have also been reported.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KIF5A | rs387907285 | GG       |
| KIF5A | rs387907287 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal dominant spastic paraplegia type 17

A complex hereditary spastic paraplegia characterized by progressive spastic paraplegia, upper and lower limb muscle atrophy, hyperreflexia, extensor plantar responses, pes cavus and occasionally impaired vibration sense. Association with hand muscles amyotrophy typical.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| HNRNPU | rs137852973 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal dominant spastic paraplegia type 31

A rare type of hereditary spastic paraplegia usually characterized by a pure phenotype of proximal weakness of the lower extremities with spastic gait and brisk reflexes, with a bimodal age of onset of either childhood or adulthood (>30 years). In some cases, it can present as a complex phenotype with additional associated manifestations including peripheral neuropathy, bulbar palsy (with dysarthria and dysphagia), distal amyotrophy, and impaired distal vibration sense.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| REEP1 | rs121918262 | GG       |
| REEP1 | rs786204081 | TT       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal dominant spastic paraplegia type 8

A rare, pure or complex form of hereditary spastic paraplegia characterized by early adulthood onset of slowly progressive lower limb spasticity resulting in gait disturbances, hyperreflexia and extensor plantar responses, urinary urgency and/or incontinence, muscle weakness, decreased vibration sense and mild muscular atrophy in lower extremities. It may be associated with complicating signs, such as sensory neuropathy, ataxia (i.e. mild dysmetria, uncoordinated eye movement) and mild dysphagia.

### Your genetic map

| Gene   | SNP        | Genotype |
|--------|------------|----------|
| WASHC5 | rs80338867 | CC       |
| WASHC5 | rs80338866 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal recessive spastic paraplegia type 15

Autosomal recessive spastic paraplegia type 15 is a complex form of hereditary spastic paraplegia characterized by a childhood to adulthood onset of slowly progressive lower limb spasticity (resulting in gait disturbance, extensor plantar responses and decreased vibration sense) associated with mild intellectual disability, mild cerebellar ataxia, peripheral neuropathy (with distal upper limb amyotrophy) and retinal degeneration. Thin corpus callosum is a common imaging finding.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| ZFYVE26 | rs118204049 | GG       |
| ZFYVE26 | rs370828455 | CC       |
| ZFYVE26 | rs769329153 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal recessive spastic paraplegia type 35

Autosomal recessive spastic paraplegia type 35 is a rare form of hereditary spastic paraplegia characterized by childhood (exceptionally adolescent) onset of a complex phenotype presenting with lower limb (followed by upper limb) spasticity with hyperreflexia and extensor plantar responses, with additional manifestations including progressive dysarthria, dystonia, mild cognitive decline, extrapyramidal features, optic atrophy and seizures. White matter abnormalities and brain iron accumulation have also been observed on brain magnetic resonance imaging.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FA2H | rs863224870 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal recessive spastic paraplegia type 54

Autosomal recessive spastic paraplegia type 54 (SPG54) is a rare, complex form of hereditary spastic paraplegia characterized by the onset in early childhood of progressive spastic paraplegia associated with cerebellar signs, short stature, delayed psychomotor development, intellectual disability and, less commonly, foot contractures, dysarthria, dysphagia, strabismus and optic hypoplasia. SPG54 is caused by mutations in the DDHD2 gene (8p11.23) encoding phospholipase DDHD2.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| DDHD2 | rs375168720 | GG       |
| DDHD2 | rs755267771 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal recessive spastic paraplegia type 56

A rare form of hereditary spastic paraplegia characterized by delayed walking, toe walking, unsteady and spastic gait, hyperreflexia of the lower limbs, and extensor plantar responses. Upper limbs spasticity and dystonia, subclinical axonal neuropathy, cognitive impairment and intellectual disability have also been associated.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1079 | rs397514513 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal recessive spastic paraplegia type 5A

Autosomal recessive spastic paraplegia type 5A is a form of hereditary spastic paraplegia characterized by either a pure phenotype of slowly progressive spastic paraplegia of the lower extremities with bladder dysfunction and pes cavus or a complex presentation with additional manifestations including cerebellar signs, nystagmus, distal or generalized muscle atrophy and cognitive impairment. Age of onset is highly variable, ranging from early childhood to adulthood. White matter hyperintensity and cerebellar and spinal cord atrophy may be noted, on brain magnetic resonance imaging, in some patients.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CYP7B1 | rs121908611 | CC       |
| CYP7B1 | rs121908613 | AA       |
| CYP7B1 | rs116171274 | GG       |
| CYP7B1 | rs587777222 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Spastic paraplegia type 2

A rare, X-linked leukodystrophy characterized primarily by spastic gait and autonomic dysfunction. When additional central nervous system (CNS) signs, such as intellectual deficit, ataxia, or extrapyramidal signs, are present, the syndrome is referred to as complicated SPG.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| RAB9B | rs132630292 | GG       |
| RAB9B | rs132630294 | CC       |
| RAB9B | rs398123467 | GG       |
| RAB9B | rs864622194 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Spastic paraplegia type 7

A form of hereditary spastic paraplegia characterized by an onset usually in adulthood (but ranging from 10-72 years) of progressive bilateral lower limb weakness and spasticity, sphincter dysfunction, decreased vibratory sense at the ankles and with additional manifestations including optical neuropathy, nystagmus, strabismus, decreased hearing, scoliosis, pes cavus, motor and sensory neuropathy, amyotrophy, blepharoptosis and ophthalmoplegia.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SPG7 | rs121918358 | TT       |
| SPG7 | rs369227537 | AA       |
| SPG7 | rs752623413 | TT       |
| SPG7 | rs748555510 | CC       |
| SPG7 | rs748309520 | GG       |
| SPG7 | rs72547551  | CC       |
| SPG7 | rs864622094 | TT       |
| SPG7 | rs141644720 | GG       |
| SPG7 | rs779055639 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Pycnodysostosis**

Pycnodysostosis is a genetic lysosomal disease characterized by osteosclerosis of the skeleton, short stature and brittle bones.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| CTSK | rs74315303 | GG       |
| CTSK | rs74315304 | GG       |
| CTSK | rs29001685 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Familial clubfoot with or without associated lower limb anomalies

Familial clubfoot with or without associated lower limb anomalies is a rare congenital limb malformation syndrome characterized by malalignment of the bones and joints of the foot and ankle, with presence of forefoot and midfoot adductus, hindfoot varus, and ankle equinus, presenting as rigid inward turning of the foot towards the midline, in various members of a single family. Hypoplasia of lower leg muscles is a frequently associated finding. Patients may present with other low-limb malformations, such as patellar hypoplasia, oblique talus, tibial hemimelia, and polydactyly.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| BLTP1 | rs775292946 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### PMM2-CDG

PMM2-CDG is the most frequent form of congenital disorder of N-glycosylation and is characterized by cerebellar dysfunction, abnormal fat distribution, inverted nipples, strabismus and hypotonia. 3 forms of PMM2-CDG can be distinguished: the infantile multisystem type, lateinfantile and childhood ataxia-intellectual disability type (3 -10 yrs old), and the adult stable disability type. Infants develop ataxia, psychomotor delay extraneurological manifestations including failure to thrive, enteropathy, hepatic dysfunction, coagulation abnormalities and cardiac and renal involvement. The phenotype is however highly variable and ranges from infants who die in the first year of life to mildly involved adults.

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=79318

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1001 | rs78290141  | AA       |
| LOC1001 | rs80338708  | CC       |
| LOC1001 | rs80338709  | GG       |
| LOC1001 | rs80338707  | GG       |
| PMM2    | rs104894526 | CC       |
| PMM2    | rs80338701  | CC       |
| PMM2    | rs80338704  | AA       |
| PMM2    | rs80338702  | TT       |
| PMM2    | rs80338700  | CC       |
| PMM2    | rs104894534 | TT       |
| PMM2    | rs80338703  | GG       |
| PMM2    | rs200503569 | CC       |
| PMM2    | rs398123309 | GG       |
| PMM2    | rs190521996 | TT       |
| PMM2    | rs150719105 | TT       |
| PMM2    | rs148032587 | GG       |
| PMM2    | rs139716296 | TT       |
| PMM2    | rs764353860 | CC       |
| TMEM186 | rs104894532 | GG       |



# Bilateral polymicrogyria

Bilateral polymicrogyria is a rare cerebral malformation due to abnormal neuronal migration defined as a cerebral cortex with many excessively small convolutions. It presents with developmental delay, intellectual disability, seizures and various neurological impairments and may be isolated or comprise a clinical feature of many genetic syndromes. It may also be associated with perinatal cytomegalovirus infection.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| ADGRG1 | rs587776623 | GG       |
| ADGRG1 | rs121908462 | CC       |
| ADGRG1 | rs121908464 | CC       |
| ADGRG1 | rs121908465 | GG       |
| ADGRG1 | rs587783658 | CC       |
| ADGRG1 | rs146278035 | CC       |
| ADGRG1 | rs587783660 | GG       |
| ADGRG1 | rs532188689 | GG       |
| ADGRG1 | rs587783652 | CC       |
| ADGRG1 | rs587783654 | TT       |
| ADGRG1 | rs587783655 | TT       |
| ADGRG1 | rs587783656 | GG       |
| ADGRG1 | rs587783657 | GG       |
| ADGRG1 | rs786204777 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Polymicrogyria due to TUBB2B mutation

A rare, genetic, complex cerebral cortical malformation characterized by generalized or focal dysgyria (also named polymicrogryia-like cortical dysplasia) or alternatively by microlissencephaly with dysmorphic basal ganglia and dysgenesis of the corpus callosum. Clinical manifestations are variable and include microcephaly, seizures, hypotonia, developmental delay, severe psychomotor delay, ataxia, spastic diplegia or tetraplegia, and ocular abnormalities (strabismus, ptosis or optic atrophy).

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| TUBB2B | rs397514569 | AA       |
| TUBB2B | rs587784498 | CC       |
| TUBB2B | rs587784502 | GG       |
| TUBB2B | rs797046075 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal recessive spastic ataxia of Charlevoix-Saguenay

Autosomal recessive spastic ataxia of Charlevoix-Saguenay (ARSACS) is a neurodegenerative disorder characterised by early-onset cerebellar ataxia with spasticity, a pyramidal syndrome and peripheral neuropathy.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SACS | rs281865118 | GG       |
| SACS | rs281865120 | GG       |
| SACS | rs780247476 | GG       |
| SACS | rs752059006 | GG       |
| SACS | rs202199411 | GG       |
| SACS | rs145766983 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Syndactyly type 2

A rare non-syndromic syndactyly characterized by a distinctive combination of syndactyly and polydactyly, generally affecting the 3rd and 4th fingers and the 4th and 5th toes, bilaterally, with partial or complete reduplication of a digital ray within the syndactylous web. Additional features include 5th finger clinodactyly, camptodactyly and/or brachydactyly.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| HOXD13 | rs200750564 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Porencephaly**

A rare, genetic or acquired, cerebral malformation characterized by an intracerebral fluid-filled cyst or cavity with or without communication between the ventricle and subarachnoid space. Clinical manifestations depend on location and severity and may include hemiparesis, seizures, intellectual disability, and dystonia.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL4A1 | rs587780588 | CC       |
| COL4A1 | rs797044867 | CC       |
| COL4A1 | rs797045034 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Acute intermittent porphyria

A rare, severe form of the acute hepatic porphyrias characterized by the occurrence of neuro-visceral attacks without cutaneous manifestations.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| HMBS | rs118204095 | GG       |
| HMBS | rs118204101 | CC       |
| HMBS | rs118204109 | CC       |
| HMBS | rs118204120 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hepatoerythropoietic porphyria

Hepatoerythropioetic porphyria (HEP) is a very rare form of chronic hepatic porphyria characterized by bullous photodermatitis.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| UROD | rs121918065 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Congenital erythropoietic porphyria

Congenital erythropoietic porphyria, or Gunther disease, is a form of erythropoietic porphyria characterized by very severe and mutilating photodermatosis.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| UROS | rs121908012 | AA       |
| UROS | rs121908014 | GG       |
| UROS | rs121908015 | GG       |
| UROS | rs121908020 | CC       |
| UROS | rs373864821 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Lipoid proteinosis**

Lipoid proteinosis (LP) is a rare genodermatosis characterized clinically by mucocutaneous lesions, hoarseness developing in early childhood and, at times, neurological complications.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ECM1 | rs121909115 | CC       |
| ECM1 | rs121909116 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal erythropoietic protoporphyria

Erythropoietic protoporphyria (EPP) is an inherited disorder of the heme metabolic pathway characterized by accumulation of protoporphyrin in blood, erythrocytes and tissues, and cutaneous manifestations of photosensitivity.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FECH | rs150146721 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Pseudohypoparathyroidism type 1C

Pseudohypoparathyroidism type 1c (PHP1c) is a rare type of pseudohypoparathyroidism (PHP; see this term) characterized by resistance to parathyroid hormone (PTH) and other hormones, which manifests with hypocalcemia, hyperphosphatemia and elevated PTH levels, a constellation of clinical features collectively termed Albright's hereditary osteodystrophy (AHO; see this term), but normal activity of the stimulatory protein G (Gs alpha).

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GNAS | rs397514456 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Pseudopseudohypoparathyroidism

Pseudopseudohypoparathyroidism (pseudo-PHP) is a disease characterized by a constellation of clinical features collectively termed Albright hereditary osteodystrophy (AHO; see this term) but no evidence of resistance to parathyroid hormone (PTH), which is seen in other forms of pseudohypoparathyroidism (PHP; see this term).

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GNAS | rs797045046 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Familial male-limited precocious puberty

Familial male limited precocious puberty (FMPP) is a gonadotropin-independent familial form of male-limited precocious puberty, generally presenting between 2-5 years of age as accelerated growth, early development of secondary sexual characteristics and reduced adult height.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| STON1 | rs121912532 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Thrombotic thrombocytopenic purpura

An aggressive and life-threatening form of thrombotic microangiopathy (TMA) characterized by profound peripheral thrombocytopenia, microangiopathic hemolytic anemia (MAHA) and organ failure of variable severity and is comprised of a congenital (cTTP) and acquired, immunemediated (iTTP) form.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| ADAMTS1 | rs121908470 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Striate palmoplantar keratoderma

Striate palmoplantar keratoderma is an isolated, focal, hereditary palmoplantar keratoderma characterized by linear hyperkeratosis along the flexor aspect of the fingers and on palms, as well as focal hyperkeratosis of the plantar skin. Patients present with painful thickening of the skin on palms and soles, with occasional fissuring, blistering and hyperhidrosis. Rarely, hyperkeratosis on other areas may be seen (knees, dorsal aspects of the digits). Histopatologically, widened intercellular spaces between keratinocytes are observed.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DSP  | rs121912991 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal dominant focal non-epidermolytic palmoplantar keratoderma with plantar blistering

A rare, genetic, isolated, focal palmoplantar keratoderma disease characterized by focal thickening of the skin of the soles, and often of the palms, associated with minimal or no nail involvement. Patients frequently present non-epidermolytic painful plantar blistering and, occasionally, subtle oral leukokeratosis or plantar hyperhidrosis.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KRT6C | rs587777292 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Isolated focal non-epidermolytic palmoplantar keratoderma

A rare hereditary palmoplantar keratoderma characterized by focal hyperkeratotic lesions on the palms and soles. Histopathologic examination reveals prominent hyperkeratosis, thickened stratum spinosum with reduced stratum granulosum, disadhesion of cells in the suprabasal layers, elongation of rete ridges, and sparse lymphocyte infiltration in the dermis.

### Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| KRT16 | rs59856285 | GG       |
| KRT16 | rs60723330 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Palmoplantar keratoderma, Nagashima type

A rare autosomal recessive, isolated diffuse palmoplantar keratoderma charactized by transgressive and nonprogressive palmoplantar keratoderma resembling a mild form of mal de Meleda.

## Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| SERPINB7 | rs142859678 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Transgrediens et progrediens palmoplantar keratoderma

A rare, isolated, diffuse palmoplantar keratoderma disorder characterized by red-yellow, moderate to severe hyperkeratosis of the palms and soles, extending to the dorsal aspects of the hands, feet and/or wrists and involving the skin over the Achilles' tendon (transgrediens), gradually worsening with age (progrediens) to include patchy hyperkeratosis over the shins, knees, elbows and, sometimes, skin flexures. Hyperhidrosis is usually associated. Histologically, either epidermolytic or nonepidermolytic changes may be seen.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1053 | rs148182439 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Keratoderma hereditarium mutilans

Keratosis follicularis spinulosa decalvans is a rare genodermatosis occurring during infancy or childhood, predominantly affecting males, and characterized by diffuse follicular hyperkeratosis associated with progressive cicatricial alopecia of the scalp, eyebrows and eyelashes. Additional findings can include photophobia, corneal dystrophy, facial erythema, and/or palmoplantar keratoderma.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| MBTPS2 | rs587776867 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hypocalcemic vitamin D-dependent rickets

An early-onset hereditary vitamin D metabolism disorder characterized by severe hypocalcemia leading to osteomalacia and rachitic bone deformations, and moderate hypophosphatemia.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| CYP27B1 | rs28934604  | CC       |
| CYP27B1 | rs118204008 | GG       |
| CYP27B1 | rs118204009 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Autosomal dominant hypophosphatemic rickets**

A rare hereditary renal phosphate-wasting disorder characterized by hypophosphatemia, rickets and/or osteomalacia.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FGF23 | rs28937882  | GG       |
| FGF23 | rs193922701 | CC       |
| FGF23 | rs193922702 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hereditary hypophosphatemic rickets with hypercalciuria

Hereditary hypophosphatemic rickets with hypercalciuria (HHRH) is a hereditary renal phosphate-wasting disorder characterized by hypophosphatemia and hypercalciuria associated with rickets and/or osteomalacia.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC34A3 | rs201293634 | TT       |
| SLC34A3 | rs150841256 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Resistance to thyroid hormone due to a mutation in thyroid hormone receptor beta

A rare genetic hyperthyroidism characterized by elevated levels of circulating free thyroid hormones, normal or elevated thyroid-stimulating hormone, decreased peripheral tissue responses to iodothyronine action, and a highly variable clinical phenotype which most commonly includes goiter, resting tachycardia, osteoporosis, short stature, and attention deficit disorder. Some patients may be entirely asymptomatic.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| THRB | rs121918695 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Retinoblastoma

A rare eye tumor disease representing the most common intraocular malignancy in children. It is a life threatening neoplasia but is potentially curable and it can be hereditary or non hereditary, unilateral or bilateral.

**Multivariate analysis** 

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=790

# Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| RB1  | rs587776780  | TT       |
| RB1  | rs3092891    | CC       |
| RB1  | rs137853293  | CC       |
| RB1  | rs121913301  | AA       |
| RB1  | rs137853294  | CC       |
| RB1  | rs121913304  | CC       |
| RB1  | rs137853296  | TT       |
| RB1  | rs137853297  | TT       |
| RB1  | rs483352690  | GG       |
| RB1  | rs587778864  | CC       |
| RB1  | rs121913305  | CC       |
| RB1  | rs587778871  | GG       |
| RB1  | rs587778850  | GG       |
| RB1  | rs587778839  | TT       |
| RB1  | rs121913296  | GG       |
| RB1  | rs587778870  | CC       |
| RB1  | rs587778842  | CC       |
| RB1  | rs121913300  | CC       |
| RB1  | rs587776783  | GG       |
| RB1  | rs587778831  | GG       |
| RB1  | rs587778846  | GG       |
| RB1  | rs121913302  | CC       |
| RB1  | rs121913303  | CC       |
| RB1  | rs794727199  | GG       |
| RB1  | rs794727481  | GG       |
| RB1  | rs878853947  | TT       |
| RB1  | rs878853949  | CC       |
| RB1  | rs886043247  | CC       |
| RB1  | rs1060503088 | TT       |
| RB1  | rs1060503067 | GG       |
| RB1  | rs1060503079 | CC       |
|      |              |          |



#### X-linked retinoschisis

A rare disorder involving multiple structure of the eye characterized by reduced visual acuity in males due to juvenile macular degeneration. Clinical features such as vitreous hemorrhage, retinal detachment, and neovascular glaucoma can be observed in advanced stages.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CDKL5 | rs61752063  | AA       |
| CDKL5 | rs61752067  | GG       |
| CDKL5 | rs104894928 | CC       |
| CDKL5 | rs104894933 | CC       |
| CDKL5 | rs104894934 | CC       |
| CDKL5 | rs104894929 | AA       |
| CDKL5 | rs104894930 | GG       |
| CDKL5 | rs61752068  | CC       |
| CDKL5 | rs61752060  | TT       |
| CDKL5 | rs61752147  | CC       |
| CDKL5 | rs61752159  | CC       |
| CDKL5 | rs281865348 | CC       |
| CDKL5 | rs61753174  | GG       |
| CDKL5 | rs281865357 | GG       |
| CDKL5 | rs281865365 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Sebocystomatosis

Sebocystomatosis is characterized by multiple (100 to 2000) asymptomatic dermal cysts that usually occur on the sternal region, upper back, axillae and proximal parts of the extremities.

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| KRT17 | rs58730926 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# 3M syndrome

A rare primordial growth disorder characterized by low birth weight, reduced birth length, severe postnatal growth restriction, large head size, a spectrum of minor anomalies (including facial dysmorphism) and normal intelligence.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CUL7 | rs121918229 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Acrocallosal syndrome

A rare polymalformative syndrome characterized by agenesis of corpus callosum (CC), distal anomalies of limbs, minor craniofacial anomalies and intellectual disability.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| KIF7 | rs794727316 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **ADNP syndrome**

A rare syndromic intellectual disability characterized by global developmental delay, gastrointestinal problems, hypotonia, delayed speech, behavioral and sleep problems, pain insensitivity, seizures, structural brain anomalies, dysmorphic features, visual problems, early tooth eruption and autistic features.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ADNP | rs587777526 | GG       |
| ADNP | rs886041116 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **ADULT syndrome**

A rare ectodermal dysplasia syndrome characterized by ectrodactyly, syndactyly, mammary hypoplasia, and excessive freckling as well as other typical ectodermal defects such as hypodontia, lacrimal duct anomalies, hypotrichosis, and onychodysplasia.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TP63 | rs113993967 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Auriculocondylar syndrome

A rare, genetic dysostosis with predominant craniofacial involvement characterized by bilateral external malformations, mandibular condyle hypoplasia, microstomia, micrognathia, microglossia and facial asymmetry. Additional manifestations include hypotonia, ptosis, cleft palate, full cheeks, developmental delay, hearing impairment and respiratory distress. Significant intra- and interfamilial phenotypic variation has been reported.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| GNAI3 | rs387907178 | GG       |
| PLCB4 | rs387907179 | AA       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal dominant intellectual disability-craniofacial anomalies-cardiac defects syndrome

A rare genetic neurodevelopmental disorder characterized by global developmental delay (DD) and variable degrees of intellectual disability (ID) with delayed or limited/absent speech development associated with neonatal hypotonia, feeding difficulties, cardiac anomalies and dysmorphic facial features, predominantly broad nasal tip and thin, tented upper lip. Microcephaly, frequent infections, gastrointestinal and/or ocular anomalies have also been described.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| КАТ6А | rs786200960 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **BOR** syndrome

Branchiootorenal (BOR) syndrome is characterized by branchial arch anomalies (branchial clefts, fistulae, cysts), hearing impairment (malformations of the auricle with preauricular pits, conductive or sensorineural hearing impairment), and renal malformations (urinary tree malformation, renal hypoplasia or agenesis, renal dysplasia, renal cysts).

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| EYA1 | rs121909195 | GG       |
| EYA1 | rs121909196 | CC       |
| EYA1 | rs606231357 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Branchio-oculo-facial syndrome

A rare, dominantly inherited multiple congenital anomalies syndrome characterized by highly variable clinical phenotype involving the three main affected systems: branchial (cutaneous) defects, ophthalmic malformations and facial anomalies. Additional features can be present.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| TFAP2A | rs793888540 | GG       |
| TFAP2A | rs793888541 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Branchiootic syndrome**

Branchiootic syndrome is a rare, genetic multiple congenital anomalies syndrome characterized by second branchial arch anomalies (branchial cysts and fistulae), malformations of the outer, middle and inner ear associated with sensorineural, mixed or conductive hearing loss, and the absence of renal abnormalities. Typical ear findings consist of malformed auricles (e.g. lop or cupped ears), preauricular pits and/or tags, and middle and/or inner ear dysplasias (inculding cochlear, vestibular and semicircular channel hypoplasia, malformation of the ossicles and of middle ear space).

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| EYA1    | rs397517917 | CC       |
| LOC1053 | rs397517920 | AA       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **CACH** syndrome

leukoencephalopathy, CACH the syndrome Central (Childhood with Ataxia nervous system Hypomyelination) or VWM (Vanishing White Matter) was identified on clinical and MRI criteria. Classically, this disease is characterized by (1) an onset between 2 and 5 years of age, with a cerebello-spastic syndrome exacerbated by episodes of fever or head trauma leading to death after 5 to 10 years of disease evolution, (2) a diffuse involvement of the white matter on cerebral MRI with a CSF-like signal intensity (cavitation), (3) a recessive autosomal mode of inheritance, (4) neuropathologic findings consistent with a cavitating orthochromatic leukodystrophy with increased number of oligodendrocytes with sometimes `foamy" aspect.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| EIF2B2 | rs104894425 | AA       |
| EIF2B2 | rs104894426 | TT       |
| EIF2B2 | rs113994012 | GG       |
| EIF2B5 | rs113994049 | GG       |
| EIF2B5 | rs113994054 | GG       |
| EIF2B5 | rs113994053 | CC       |
| EIF2B5 | rs113994048 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Cardiofaciocutaneous syndrome

A rare, multiple congenital anomalies syndrome characterized by craniofacial dysmorphology, congenital heart disease, dermatological abnormalities (most commonly hyperkeratotic skin and sparse, curly hair), neurological manifestations (hypotonia, seizures), failure to thrive and intellectual disability.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| BRAF | rs113488022 | AA       |
| BRAF | rs121913348 | CC       |
| BRAF | rs180177034 | CC       |
| BRAF | rs121913364 | TT       |
| BRAF | rs121913355 | CC       |
| BRAF | rs180177035 | TT       |
| BRAF | rs180177036 | CC       |
| BRAF | rs180177037 | TT       |
| BRAF | rs180177038 | CC       |
| BRAF | rs180177039 | TT       |
| BRAF | rs180177040 | TT       |
| BRAF | rs180177042 | AA       |
| BRAF | rs387906661 | TT       |
| BRAF | rs397507465 | TT       |
| BRAF | rs397507466 | TT       |
| BRAF | rs397507469 | GG       |
| BRAF | rs397507473 | AA       |
| BRAF | rs397507474 | TT       |
| BRAF | rs397507475 | AA       |
| BRAF | rs397507476 | TT       |
| BRAF | rs397507479 | CC       |
| BRAF | rs397507480 | AA       |
| BRAF | rs397507481 | GG       |
| BRAF | rs397507483 | CC       |
| BRAF | rs121913375 | GG       |
| BRAF | rs397507484 | TT       |
| BRAF | rs397516892 | GG       |
| BRAF | rs397516893 | AA       |
| BRAF | rs397516894 | GG       |
| BRAF | rs397516895 | AA       |
| BRAF | rs397516903 | AA       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **CHARGE syndrome**

CHARGE syndrome is a multiple congenital anomaly syndrome characterized by the variable combination of multiple anomalies, mainly Coloboma; Choanal atresia/stenosis; Cranial nerve dysfunction; Characteristic ear anomalies (known as the major 4 C's).

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=138

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CHD7 | rs121434338 | AA       |
| CHD7 | rs267606724 | CC       |
| CHD7 | rs398124321 | GG       |
| CHD7 | rs587783428 | GG       |
| CHD7 | rs587783429 | CC       |
| CHD7 | rs587783432 | GG       |
| CHD7 | rs587783433 | TT       |
| CHD7 | rs587783434 | GG       |
| CHD7 | rs587783440 | CC       |
| CHD7 | rs587783441 | AA       |
| CHD7 | rs587783442 | CC       |
| CHD7 | rs587783445 | TT       |
| CHD7 | rs587783446 | CC       |
| CHD7 | rs587783447 | GG       |
| CHD7 | rs587783448 | AA       |
| CHD7 | rs587783450 | CC       |
| CHD7 | rs587783451 | AA       |
| CHD7 | rs587783454 | CC       |
| CHD7 | rs587783457 | CC       |
| CHD7 | rs587783458 | CC       |
| CHD7 | rs587783459 | GG       |
| CHD7 | rs794727293 | CC       |
| CHD7 | rs794727423 | GG       |
| CHD7 | rs794727569 | GG       |
| CHD7 | rs797045467 | CC       |
| CHD7 | rs864622523 | AA       |
| CHD7 | rs886040983 | CC       |
| CHD7 | rs768184220 | AA       |
| CHD7 | rs886040991 | CC       |
| CHD7 | rs757160222 | CC       |
| CHD7 | rs886040995 | CC       |
|      |             |          |



## **CHILD syndrome**

CHILD syndrome (Congenital Hemidysplasia with Ichthyosiform nevus and Limb Defects, CS) is an X-linked dominant genodermatosis characterized by unilateral inflammatory and scaling skin lesions with ipsilateral visceral and limb anomalies.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| NSDHL | rs141571609 | CC       |
| NSDHL | rs587784226 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Classic glucose transporter type 1 deficiency syndrome

Glucose transporter type 1 (GLUT1) deficiency syndrome is characterized by an encephalopathy marked by childhood epilepsy that is refractory to treatment, deceleration of cranial growth leading to microcephaly, psychomotor retardation, spasticity, ataxia, dysarthria and other paroxysmal neurological phenomena often occurring before meals. Symptoms appear between the age of 1 and 4 months, following a normal birth and gestation.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SLC2A1 | rs80359816  | CC       |
| SLC2A1 | rs80359818  | GG       |
| SLC2A1 | rs587784397 | GG       |
| SLC2A1 | rs587784396 | GG       |
| SLC2A1 | rs587784390 | TT       |
| SLC2A1 | rs794727642 | CC       |
| SLC2A1 | rs80359825  | GG       |
| SLC2A1 | rs794729221 | GG       |
| SLC2A1 | rs796053253 | GG       |
| SLC2A1 | rs80359823  | GG       |
| SLC2A1 | rs80359819  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Congenital vertebral-cardiac-renal anomalies syndrome

A rare genetic multiple congenital anomalies/dysmorphic syndrome characterized by vertebral segmentation defects associated with cardiac (patent ductus arteriosus, atrial septal defect, hypoplastic left heart) and renal (hypoplastic kidneys, chronic kidney disease) anomalies. Additional reported features include limb defects, short stature, global developmental delay, intellectual disability, and sensorineural hearing loss, among others.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| NADSYN1 | rs368115694 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Constitutional mismatch repair deficiency syndrome

Constitutional mismatch repair deficiency syndrome is a rare, inherited cancer-predisposing syndrome characterized by the development of a broad spectrum of malignancies during childhood, including mainly brain, hematological and gastrointestinal cancers, although embryonic and other tumors have also been occasionally reported. Nonneoplastic features, in particular manifestations reminiscent of neurofibromatosis type 1 (e.g., cafe-au-lait spots, freckling, neurofibromas), as well as premalignant and nonmalignant lesions (such as adenomas/polpyps) are frequently present before malignancy development.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PMS2 | rs63750871  | GG       |
| PMS2 | rs587779347 | TT       |
| PMS2 | rs758304323 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Heart-hand syndrome, Slovenian type

Heart-hand syndrome of Slovenian type is a rare autosomal dominant form of heart-hand syndrome (see this term), first described in members of a Slovenian family, that is characterized by adult onset, progressive cardiac conduction disease, tachyarrhythmias that can lead to sudden death, dilated cardiomyopathy and brachydactyly, with the hands less severely affected than the feet. Muscle weakness and/or myopathic electromyographic findings have been observed in some cases.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| LMNA | rs386134243 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Aarskog-Scott syndrome**

A rare developmental disorder characterized by facial, limbs and genital features, and a disproportionate acromelic short stature.

## Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| FGD1 | rs28935497 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Adams-Oliver syndrome**

A rare disorder characterized by the combination of congenital limb abnormalities and scalp defects, often accompanied by skull ossification defects.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| DLL4  | rs796065350 | GG       |
| DLL4  | rs796065348 | CC       |
| DLL4  | rs796065347 | TT       |
| DLL4  | rs796065346 | GG       |
| DLL4  | rs796065345 | CC       |
| DLL4  | rs61750844  | CC       |
| DOCK6 | rs372751467 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Corpus callosum agenesis-neuronopathy syndrome

Corpus callosum agenesis-neuronopathy syndrome is a neurodegenerative disorder characterized by severe progressive sensorimotor neuropathy beginning in infancy with resulting hypotonia, areflexia, amyotrophy and variable degrees of dysgenesis of the corpus callosum. Additional features include mild-to-severe intellectual and developmental delays, and psychiatric manifestations that include paranoid delusions, depression, hallucinations, and 'autistic-like' features. Affected individuals are usually wheelchair restricted in the second decade of life and die in the third decade of life. The disease is inherited as an autosomal recessive trait.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC12A6 | rs121908427 | GG       |
| SLC12A6 | rs121908429 | GG       |
| SLC12A6 | rs199747285 | CC       |
| SLC12A6 | rs751184319 | GG       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Aicardi-Goutières syndrome

An inherited, subacute encephalopathy characterised by the association of basal ganglia calcification, leukodystrophy and cerebrospinal fluid (CSF) lymphocytosis.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TREX1 | rs78218009  | CC       |
| TREX1 | rs121908117 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Alagille syndrome

A rare syndrome variably characterized by chronic cholestasis due to paucity of intrahepatic bile ducts, peripheral pulmonary artery stenosis, vertebrae segmentation anomalies, characteristic facies, posterior embryotoxon/anterior segment abnormalities, pigmentary retinopathy, and dysplastic kidneys.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| JAG1    | rs121918351 | CC       |
| JAG1    | rs863223655 | GG       |
| JAG1    | rs863223649 | GG       |
| JAG1    | rs863223648 | CC       |
| JAG1    | rs876660980 | GG       |
| JAG1    | rs886043603 | GG       |
| MIR6870 | rs863223650 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Alazami syndrome

A rare form of primordial dwarfism, often microcephalic, characterized by short stature, global developmental delay, variable intellectual disability and recognizable dysmorphic facial features (triangular face, prominent forehead, deeply set eyes, low-set ears, wide nose, malar hypoplasia, wide mouth, thick lips, and widely spaced teeth).

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| MIR302C | rs775430086 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Allan-Herndon-Dudley syndrome

An X-linked intellectual disability syndrome with neuromuscular involvement characterized by infantile hypotonia, muscular hypoplasia, spastic paraparesis with dystonic/athetoic movements, and severe cognitive deficiency.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1053 | rs587784386 | CC       |
| SLC16A2 | rs104894936 | CC       |
| SLC16A2 | rs122455132 | TT       |
| SLC16A2 | rs587784382 | CC       |
| SLC16A2 | rs587784383 | GG       |
| SLC16A2 | rs587784384 | CC       |
| SLC16A2 | rs766773277 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Alpers-Huttenlocher syndrome

A cerebrohepatopathy and a rare and severe form of mitochondrial DNA (mtDNA) depletion syndrome characterized by the triad of progressive developmental regression, intractable seizures, and hepatic failure.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FANCI | rs139562274 | GG       |
| POLG  | rs121918049 | CC       |
| POLG  | rs548076633 | TT       |
| POLG  | rs56047213  | CC       |
| POLG  | rs201732356 | GG       |
| POLG  | rs796052888 | CC       |
| POLG  | rs796052887 | CC       |
| POLG  | rs796052906 | GG       |
| POLG  | rs769410130 | GG       |
| POLG  | rs753160398 | GG       |
| POLG  | rs139590686 | TT       |
| POLG  | rs142347031 | AA       |
| POLG  | rs140079523 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Andersen-Tawil syndrome**

A rare disorder characterized by periodic muscle paralysis, prolongation of the QT interval with a variety of ventricular arrhythmias (leading to predisposition to sudden cardiac death) and characteristic physical features: short stature, scoliosis, low-set ears, hypertelorism, broad nasal root, micrognathia, clinodactyly, brachydactyly and syndactyly.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KCNJ2 | rs104894578 | CC       |
| KCNJ2 | rs104894579 | GG       |
| KCNJ2 | rs104894580 | CC       |
| KCNJ2 | rs104894585 | CC       |
| KCNJ2 | rs199473373 | CC       |
| KCNJ2 | rs199473381 | GG       |
| KCNJ2 | rs199473384 | GG       |
| KCNJ2 | rs786205817 | AA       |
| KCNJ2 | rs786205820 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Thiamine-responsive megaloblastic anemia syndrome

Thiamine-responsive megaloblastic anemia (TRMA) is characterized by a triad of megaloblastic anemia, non-type I diabetes mellitus, and sensorineural deafness.

Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| SLC19A2 | rs28937595 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Aneurysm-osteoarthritis syndrome

A rare, genetic, systemic disease characterized by the presence of arterial aneurysms, tortuosity and dissection throughout the arterial tree, associated with early-onset osteoarthritis (predominantly affecting the spine, hands and/or wrists, and knees) and mild craniofacial dysmorphism (incl. long face, high forehead, flat supraorbital ridges, hypertelorism, malar hypoplasia and, a raphe, broad or bifid uvula), as well as mild skeletal and cutaneous anomalies. Joint abnormalities, such as osteochondritis dissecans and intervertebral disc degeneration, are frequently associated. Additional cardiovascular anomalies may include mitral valve defects, congenital heart malformations, ventricular hypertrophy and atrial fibrillation.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SMAD3 | rs387906850 | CC       |
| SMAD3 | rs387906853 | GG       |

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Angelman syndrome**

A neurogenetic disorder characterized by severe intellectual deficit and distinct facial dysmorphic features.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| MECP2  | rs61748396  | GG       |
| MECP2  | rs61754453  | GG       |
| SNHG14 | rs111033595 | CC       |
| SNHG14 | rs587780577 | AA       |
| SNHG14 | rs587781208 | CC       |
| SNHG14 | rs587781220 | CC       |
| SNHG14 | rs587781241 | GG       |
| SNHG14 | rs587782919 | TT       |
| SNHG14 | rs587783097 | GG       |
| SNHG14 | rs587784526 | AA       |
| SNHG14 | rs587784518 | TT       |
| SNHG14 | rs587784516 | CC       |
| SNHG14 | rs587784515 | AA       |
| SNHG14 | rs587784514 | CC       |
| SNHG14 | rs587784508 | CC       |
| SNHG14 | rs587784533 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Anophthalmia/microphthalmia-esophageal atresia syndrome

A syndrome that belongs to the group of syndromic microphthalmias and is characterized by the association of uni- or bilateral anophthalmia or microphthalmia, and esophageal atresia with or without trachoesophageal fistula.

Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| SOX2 OT | rs55683010 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Palatal anomalies-widely spaced teeth-facial dysmorphism-developmental delay syndrome

Palatal anomalies-widely spaced teeth-facial dysmorphism-developmental delay syndrome is a rare, genetic multiple congenital anomalies/dysmorphic syndrome characterized by global developmental delay, axial hypotonia, palate abnormalities (including cleft palate and/or high and narrow palate), dysmorphic facial features (including prominent forehead, hypertelorism, downslanting palpebral fissures, wide nasal bridge, thin lips and widely spaced teeth), and short stature. Additional manifestations may include digital anomalies (such as brachydactyly, clinodactyly, and hypoplastic toenails), a single palmar crease, lower limb hypertonia, joint hypermobility, as well as ocular and urogenital anomalies.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KDM1A | rs864309715 | GG       |
| KDM1A | rs864309716 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Antley-Bixler syndrome**

A rare syndromic craniosynostosis characterized by craniosynostosis with midface hypoplasia, radiohumeral synostosis, femoral bowing and joint contractures.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FGFR2 | rs121918502 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## **Apert syndrome**

A frequent form of acrocephalosyndactyly, a group of inherited congenital malformation disorders, characterized by craniosynostosis, midface hypoplasia, and finger and toe anomalies and/or syndactyly.

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| FGFR2 | rs79184941 | GG       |
| FGFR2 | rs77543610 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Pyogenic arthritis-pyoderma gangrenosum-acne syndrome

Pyogenic arthritis-pyoderma gangrenosum-acne syndrome is a rare pleiotropic autoinflammatory disorder of childhood, primarily affecting the joints and skin.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| PSTPIP1 | rs28939089  | GG       |
| PSTPIP1 | rs121908130 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



## Progeroid and marfanoid aspect-lipodystrophy syndrome

Progeroid and marfanoid aspect-lipodystrophy syndrome is a rare systemic disease characterized by a neonatal progeroid appearance (not associated with other manifestations of premature aging) associated with facial dysmorphism (e.g. macrocephaly or arrested hydrocephaly, proptosis, downslanting palpebral fissures, retrognathia), generalized, extreme, congenital lack of subcutaneous fat tissue (except in the breast and iliac region) and incomplete signs of Marfan syndrome (mainly severe myopia, joint hyperextensibility and arachnodactyly). Metabolic disturbances are not associated.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FBN1 | rs398122833 | CC       |
| FBN1 | rs794728325 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Cerebellar ataxia-areflexia-pes cavus-optic atrophysensorineural hearing loss syndrome

Cerebellar ataxia - areflexia - pes cavus - optic atrophy - sensorineural hearing loss (CAPOS syndrome) is a rare autosomal dominant neurological disorder characterized by early onset cerebellar ataxia, associated with areflexia, progressive optic atrophy, sensorineural deafness, a pes cavus deformity, and abnormal eye movements.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| ATP1A3 | rs58777771  | CC       |
| ATP1A3 | rs863224847 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal recessive cerebellar ataxia-epilepsy-intellectual disability syndrome due to WWOX deficiency

A rare autosomal recessive cerebellar ataxia-epilepsyintellectual disability syndrome characterized by earlychildhood onset of cerebellar ataxia associated with generalized tonic-clonic epilepsy and psychomotor development delay, dysarthria, gaze-evoked nystagmus and learning disability. Other features in some patients include upper motor neuron signs with leg spasticity and extensor plantar responses, and mild cerebellar atrophy on brain MRI.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| WWOX | rs756762196 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Early-onset spastic ataxia-myoclonic epilepsy-neuropathy syndrome

Early-onset spastic ataxia-myoclonic epilepsy-neuropathy syndrome is a rare hereditary spastic ataxia disorder characterized by childhood onset of slowly progressive lower limb spastic paraparesis and cerebellar ataxia (with dysarthria, swallowing difficulties, motor degeneration), associated with sensorimotor neuropathy (including muscle weakness and distal amyotrophy in lower extremities) and progressive myoclonic epilepsy. Ocular signs (ptosis, oculomotor apraxia), dysmetria, dysdiadochokinesia, dystonic movements and myoclonus may also be associated.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1079 | rs387906889 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Ataxia-intellectual disability-oculomotor apraxia-cerebellar cysts syndrome

A rare neuro-ophthalmological disease characterized by nonprogressive cerebellar ataxia, delayed motor and language development and intellectual disability, in addition to ophthalmological abnormalities (e.g. oculomotor apraxia, strabismus, amblyopia, retinal dystrophy and myopia). Cerebellar cysts, cerebellar dysplasia and cerebellar vermis hypoplasia, seen on magnetic resonance imaging, are also characteristic of the disease.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| LAMA1 | rs587777677 | AA       |
| LAMA1 | rs587777681 | AA       |
| LAMA1 | rs797045184 | CC       |
| LAMA1 | rs141914419 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Spinal muscular atrophy-progressive myoclonic epilepsy syndrome

Spinal muscular atrophy-progressive myoclonic epilepsy syndrome is characterized by hereditary myoclonus and progressive distal muscular atrophy. Less than 10 cases have been reported. Treatment with clonazepam results in complete and lasting improvement of the myoclonus.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ASAH1 | rs145873635 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Autosomal dominant optic atrophy plus syndrome

A rare neuro-ophthalmological disease associating the typical optic atrophy with other extra-ocular manifestations such as sensorineural deafness, myopathy, chronic progressive external ophthalmoplegia, ataxia and peripheral neuropathy. More rarely, other manifestations have been associated with this condition, such as spastic paraplegia or multiple-sclerosis like illness.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1027 | rs398124298 | CC       |
| OPA1    | rs80356529  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Optic atrophy-intellectual disability syndrome

Optic atrophy-intellectual disability syndrome is a rare, hereditary, syndromic intellectual disability characterized by developmental delay, intellectual disability, and significant visual impairment due to optic nerve atrophy, optic nerve hypoplasia or cerebral visual impairment. Other common clinical signs and symptoms are hypotonia, oromotor dysfunction, seizures, autism spectrum disorder, and repetitive behaviors. Dysmorphic facial features are variable and nonspecific.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| NR2F1 | rs587777274 | GG       |
| NR2F1 | rs587777275 | CC       |
| NR2F1 | rs587777276 | TT       |
| NR2F1 | rs587777277 | GG       |
| NR2F1 | rs863224903 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Barth syndrome**

Barth syndrome (BTHS) is an inborn error of phospholipid metabolism characterized by dilated cardiomyopathy (DCM), skeletal myopathy, neutropenia, growth delay and organic aciduria.

## Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| TAFAZZIN | rs387907218 | GG       |
| TAFAZZIN | rs397515738 | CC       |
| TAFAZZIN | rs397515739 | TT       |
| TAFAZZIN | rs397515740 | TT       |
| TAFAZZIN | rs397515741 | TT       |
| TAFAZZIN | rs397515746 | GG       |
| TAFAZZIN | rs397515747 | GG       |
| TAFAZZIN | rs727504327 | GG       |
| TAFAZZIN | rs727504431 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Bartter syndrome**

Bartter syndrome is a group of rare renal tubular disease characterized by impaired salt reabsorption in the thick ascending limb of Henle's loop and clinically by the association of hypokalemic alkalosis, hypercalciuria/nephrocalcinosis, increased levels of plasma renin and aldosterone, low blood pressure and vascular resistance to angiotensin II.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KCNJ1 | rs377205432 | GG       |
| KCNJ1 | rs746509804 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Beta-thalassemia-X-linked thrombocytopenia syndrome

Beta-thalassemia - X-linked thrombocytopenia is a form of beta-thalassemia characterized by splenomegaly and petechiae, moderate thrombocytopenia, prolonged bleeding time due to platelet dysfunction, reticulocytosis and mild beta-thalassemia.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| GATA1 | rs104894809 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Björnstad syndrome

Björnstad syndrome is characterized by congenital sensorineural hearing loss and pili torti.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| BCS1L | rs121908577 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Blau syndrome**

Blau syndrome (BS) is a rare systemic inflammatory disease characterized by early onset granulomatous arthritis, uveitis and skin rash. BS now refers to both the familial and sporadic (formerly early-onset sarcoidosis) form of the same disease. The proposed term pediatric granulomatous arthritis is currently questioned since it fails to represent the systemic nature of the disease.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| NOD2 | rs104895461 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Bohring-Opitz syndrome**

A rare multiple congenital anomalies syndrome characterized by intrauterine growth retardation (IUGR), postnatal failure to thrive, severe feeding difficulties, microcephaly/trigonocephaly, facial dysmorphism, a recognizable upper limb posture and severe developmental delay. The upper limb posture consists of internal rotation of the shoulders, flexion of the elbows, ulnar deviation of wrists and/or metacarpophalangeal joints.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ASXL1 | rs373145711 | CC       |
| ASXL1 | rs397515401 | CC       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Borjeson-Forssman-Lehmann syndrome

Borjeson-Forssman-Lehmann syndrome (BFLS) is a rare X-linked obesity syndrome characterized by intellectual deficit, truncal obesity, characteristic facial features, hypogonadism, tapered fingers and short toes.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PHF6 | rs132630297 | CC       |
| PHF6 | rs864309532 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Bosley-Salih-Alorainy syndrome

Bosley-Salih-Alorainy syndrome (BSAS) is characterized by variable horizontal gaze dysfunction, profound and bilateral sensorineural deafness associated commonly with severe inner ear maldevelopment, cerebrovascular anomalies (ranging from unilateral internal carotid artery hypoplasia to bilateral agenesis), cardiac malformation, developmental delay and occasionally autism. The syndrome is caused by homozygous mutations in the HOXA1 gene (7p15.2) and is transmitted in an autosomal recessive manner. The syndrome overlaps clinically and genetically with Athabaskan brain dysfunction syndrome (ABDS,). However unlike ABDS, BSAS does not manifest central hypoventilation.

## Your genetic map

Gene SNP Genotype
HOTAIRM rs104894018 GG

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Bruck syndrome**

Bruck syndrome is characterised by the association of osteogenesis imperfecta and congenital joint contractures.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL1A2 | rs794727669 | GG       |
| FKBP10 | rs387906960 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Brugada syndrome

A cardiac disorder characterized on electrocardiogram (ECG) by ST segment elevation with a coved aspect on the right precordial leads, and a clinical susceptibility to ventricular tachyarrhythmias and sudden death occurring in the absence of overt myocardial abnormalities.

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=130

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| FBN1 DT | rs886039072 | CC       |
| SCN5A   | rs28937318  | CC       |
| SCN5A   | rs137854611 | GG       |
| SCN5A   | rs199473282 | GG       |
| SCN5A   | rs199473579 | CC       |
| SCN5A   | rs199473565 | CC       |
| SCN5A   | rs199473153 | CC       |
| SCN5A   | rs199473161 | GG       |
| SCN5A   | rs199473168 | GG       |
| SCN5A   | rs199473172 | CC       |
| SCN5A   | rs199473055 | GG       |
| SCN5A   | rs199473554 | CC       |
| SCN5A   | rs199473556 | GG       |
| SCN5A   | rs199473058 | CC       |
| SCN5A   | rs199473598 | CC       |
| SCN5A   | rs199473220 | CC       |
| SCN5A   | rs199473225 | GG       |
| SCN5A   | rs199473249 | CC       |
| SCN5A   | rs199473613 | TT       |
| SCN5A   | rs199473305 | CC       |
| SCN5A   | rs199473083 | CC       |
| SCN5A   | rs483353016 | CC       |
| SCN5A   | rs786204839 | AA       |
| SCN5A   | rs794728880 | AA       |
| SCN5A   | rs794728879 | CC       |
| SCN5A   | rs794728865 | GG       |
| SCN5A   | rs794728849 | GG       |
| SCN5A   | rs794728843 | CC       |
| SCN5A   | rs794728846 | CC       |
| SCN5A   | rs863224532 | GG       |
| SCN5A   | rs863225273 | CC       |
|         |             |          |



# **Carney-Stratakis syndrome**

Carney-Stratakis syndrome is a recently described familial syndrome characterized by gastrointestinal stromal tumors (GIST) and paragangliomas, often at multiple sites.

## Your genetic map

| Gene   | SNP          | Genotype |
|--------|--------------|----------|
| SDHB   | rs587782703  | CC       |
| SDHC   | rs587776653  | GG       |
| SDHD   | rs786202403  | CC       |
| SDHD   | rs786203932  | GG       |
| SDHD   | rs1060503770 | CC       |
| SDHD   | rs1050032491 | TT       |
| TIMM8B | rs587776644  | TT       |
| TIMM8B | rs80338842   | GG       |
| TIMM8B | rs587782210  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Carvajal syndrome

A syndrome that is characterized by woolly hair, palmoplantar keratoderma and dilated cardiomyopathy principally affecting the left ventricle.

# Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| DSP  | rs121912997  | CC       |
| DSP  | rs397516946  | CC       |
| DSP  | rs140474226  | CC       |
| DSP  | rs730880081  | GG       |
| DSP  | rs794728106  | GG       |
| DSP  | rs149701627  | CC       |
| DSP  | rs794728118  | CC       |
| DSP  | rs777573018  | CC       |
| DSP  | rs869025395  | CC       |
| DSP  | rs876657638  | CC       |
| DSP  | rs1057517903 | GG       |
| DSP  | rs774514264  | TT       |
| DSP  | rs778178956  | CC       |
| DSP  | rs1304410089 | GG       |
| DSP  | rs1236464864 | TT       |
| DSP  | rs1267435790 | CC       |
| DSP  | rs113726158  | AA       |
| DSP  | rs1194358112 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Congenital cataract-progressive muscular hypotonia-hearing loss-developmental delay syndrome

Congenital cataract-progressive muscular hypotonia-hearing loss-developmental delay syndrome is a rare, genetic, mitochondrial myopathy disorder characterized by congenital cataract, progressive muscular hypotonia that particularly affects the lower limbs, reduced deep tendon reflexes, sensorineural hearing loss, global development delay and lactic acidosis. Muscle biopsy reveals reduced complex I, II and IV respiratory chain activity.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GFER | rs121908192 | GG       |
| GFER | rs771809901 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Congenital cataract-hypertrophic cardiomyopathymitochondrial myopathy syndrome

Congenital cataract - hypertrophic cardiomyopathy - mitochrondrial myopathy (CCM) is a mitochondrial disease characterized by cataracts, hypertrophic cardiomyopathy, muscle weakness and lactic acidosis after exercise.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| AGK  | rs387907025 | CC       |
| AGK  | rs746709222 | CC       |
| AGK  | rs863223895 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Chédiak-Higashi syndrome

Chédiak-Higashi syndrome (CHS) is a rare severe genetic disorder generally characterized by partial oculocutaneous albinism (OCA, see this term), severe immunodeficiency, mild bleeding, neurological dysfunction and lymphoproliferative disorder. A classic, early-onset form and an attenuated, later-onset form (Atypical CHS; see this term) have been described.

## Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| LYST | rs80338652 | GG       |
| LYST | rs80338651 | GG       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Christianson syndrome**

A rare developmental defect during embryogenesis characterized by intellectual deficit, ataxia, postnatal microcephaly, and hyperkinesis.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SLC9A6 | rs122461162 | CC       |
| SLC9A6 | rs398124224 | CC       |
| SLC9A6 | rs587784399 | TT       |
| SLC9A6 | rs797044508 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Chudley-McCullough syndrome

Chudley-McCullough syndrome is a rare, genetic, syndromic deafness characterized by severe to profound, bilateral, sensorineural hearing loss (congenital or rapidly progressive in infancy) associated with a complex brain malformation including hydrocephalus, varying degrees of partial corpus callosum agenesis, colpocephaly, cerebral and cerebellar cortical dysplasia (bilateral medial frontal polymicrogyria, bilateral frontal subcortical heteropia) and, in some, arachnoid cysts. Major physical abnormalities or psychomotor delay are usually not associated.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| GPSM2 | rs145191476 | CC       |
| GPSM2 | rs370907055 | CC       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Cockayne syndrome

Cockayne syndrome (CS) is a multisystem condition characterized by short stature, a characteristic facial appearance, premature aging, photosensitivity, progressive neurological dysfunction, and intellectual deficit.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ERCC6 | rs786205174 | GG       |
| ERCC6 | rs373227647 | TT       |
| ERCC6 | rs151242354 | GG       |
| ERCC6 | rs202080674 | GG       |
| ERCC6 | rs371739894 | CC       |
| ERCC6 | rs368728467 | AA       |
| ERCC6 | rs751838040 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Coffin-Lowry syndrome**

A rare X-linked syndromic intellectual disability characterized by global development delay, postnatal growth retardation leading to short stature, facial dysmorphism, short hands with tapering fingers and progressive skeletal abnormalities including kyphoscoliosis and pectus carinatum/excavatum. Intellectual disability ranges from mild to severe.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| RPS6KA3 | rs28935171  | CC       |
| RPS6KA3 | rs398124177 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Atrial septal defect-atrioventricular conduction defects syndrome

An extremely rare genetic congenital heart disease characterized by the presence of atrial septal defect, mostly of the ostium secundum type, associated with conduction anomalies like atrioventricular block, atrial fibrillation or right bundle branch block.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| NKX2 5 | rs104893901 | GG       |
| NKX2 5 | rs72554028  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Lethal congenital contracture syndrome type 1

Lethal congenital contracture syndrome type 1 is a rare, genetic arthrogryposis syndrome characterized by total fetal akinesia (detectable since the 13th week of gestation) accompanied by hydrops, micrognathia, pulmonary hypoplasia, pterygia and multiple joint contractures (usually flexion contractures in the elbows and extension in the knees), leading invariably to death before the 32nd week of gestation. Lack of anterior horn motoneurons, severe atrophy of the ventral spinal cord and severe skeletal muscle hypoplasia are characteristic neuropathological findings, with no evidence of other organ structural anomalies.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1019 | rs121434407 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal recessive chorioretinopathy-microcephaly syndrome

A rare neuro-opthalmological disease characterized by severe microcephaly of prenatal onset (with diminutive anterior fontanelle and sutural ridging), growth retardation, global developmental delay and intellectual disability (ranging from mild to profound), dysmorphic features (sloping forehead, micro/retrognathia, prominent ears) and impairments (including microphthalmia anophtalmia, generalized retinopathy or multiple punchedout retinal lesions, retinal folds with retinal detachment, optic nerve hypoplasia, strabismus, nystagmus). Brain MRI may show reduced cortical size, cerebral hemispheres, corpus callosum, pachygyria, symplified gyral folding or normal pattern. Other associated features include epilepsy and neurological deficits.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| TUBGCP | rs192919234 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Cornelia de Lange syndrome

A rare multiple congenital anomalies syndrome characterized by facial dysmorphism, hypertrichosis, mild to profound intellectual disability, intrauterine growth restriction (IUGR) and/or postnatal growth restriction, feeding difficulties, abnormalities of the hands and feet (ranging from severe reductional limb abnormalities, oligodactyly, to brachymetacarpia of the first metacarpus). Variable visceral malformations may be present.

#### **Multivariate analysis**

## What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=199

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| CPLANE1 | rs398124474 | CC       |
| CPLANE1 | rs587784053 | GG       |
| HDAC8   | rs886041936 | GG       |
| NIPBL   | rs121918267 | CC       |
| NIPBL   | rs121918269 | CC       |
| NIPBL   | rs398124466 | CC       |
| NIPBL   | rs80358362  | CC       |
| NIPBL   | rs398124471 | CC       |
| NIPBL   | rs80358367  | CC       |
| NIPBL   | rs80358369  | TT       |
| NIPBL   | rs80358366  | GG       |
| NIPBL   | rs80358373  | AA       |
| NIPBL   | rs80358360  | CC       |
| NIPBL   | rs80358363  | GG       |
| NIPBL   | rs80358376  | CC       |
| NIPBL   | rs80358384  | AA       |
| NIPBL   | rs80358370  | CC       |
| NIPBL   | rs587783937 | GG       |
| NIPBL   | rs587784009 | GG       |
| NIPBL   | rs587784012 | AA       |
| NIPBL   | rs587783886 | GG       |
| NIPBL   | rs587783895 | TT       |
| NIPBL   | rs587783922 | AA       |
| NIPBL   | rs587783927 | GG       |
| NIPBL   | rs587783928 | GG       |
| NIPBL   | rs587783988 | CC       |
| NIPBL   | rs587783993 | GG       |
| NIPBL   | rs587784042 | AA       |
| NIPBL   | rs587784048 | GG       |
| NIPBL   | rs587784049 | GG       |
| NIPBL   | rs587784059 | GG       |
|         |             |          |



# Costello syndrome

A rare syndrome with intellectual disability, characterized by failure to thrive, short stature, joint laxity, soft skin, and distinctive facial features. Cardiac and neurological involvement is common and there is an increased lifetime risk of certain tumors. Costello syndrome belongs to the RASopathies, a group of conditions resulting from germline derived point mutations affecting the RAS-mitogen activated protein kinase pathway.

## Your genetic map

| SNP         | Genotype   |
|-------------|--|
| rs104894230 | CC   |
| rs104894229 | CC   |
| rs104894226 | CC   |
| rs104894227 | TT   |
| rs104894228 | CC   |
| rs121917756 | CC   |
| rs121917757 | GG   |
| rs121917758 | GG   |
| rs121917759 | GG   |
| rs727503093 | CC   |
| rs730880460 | CC   |
|             | rs104894230<br>rs104894229<br>rs104894226<br>rs104894227<br>rs104894228<br>rs121917756<br>rs121917757<br>rs121917758<br>rs121917759<br>rs727503093 |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Recurrent metabolic encephalomyopathic crisesrhabdomyolysis-cardiac arrhythmia-intellectual disability

Recurrent metabolic encephalomyopathic crisesrhabdomyolysis-cardiac arrhythmia-intellectual disability syndrome is a rare, genetic, neurodegenerative disease characterized by episodic metabolic encephalomyopathic crises (of variable frequency and severity which are frequently precipitated by an acute illness) which manifest with profound muscle weakness, ataxia, seizures, cardiac arrhythmias, rhabdomyolysis with myoglobinuria, elevated plasma creatine kinase, hypoglycemia, lactic acidosis, increased acylcarnitines and a disorientated or comatose state. Global developmental delay, intellectual disability and cortical, pyramidal and cerebellar signs develop with subsequent progressive neurodegeneration causing loss of expressive language and varying degrees of cerebral atrophy.

#### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| TANGO2 | rs372949028 | GG       |
| TANGO2 | rs199801224 | CC       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Crouzon syndrome-acanthosis nigricans syndrome

Crouzon syndrome with acanthosis nigricans (CAN) is a very rare, clinically heterogeneous form of faciocraniostenosis with Crouzon-like features and premature synostosis of cranial sutures (Crouzon disease, see this term), associated with acanthosis nigricans (AN; see this term).

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| FGFR3 | rs28931615 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# De Barsy syndrome

De Barsy syndrome (DBS) is characterized by facial dysmorphism (down-slanting palpebral fissures, a broad flat nasal bridge and a small mouth) with a progeroid appearance, large and late-closing fontanel, cutis laxa (CL), joint hyperlaxity, athetoid movements and hyperreflexia, preand postnatal growth retardation, intellectual deficit and developmental delay, and corneal clouding and cataract.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| ALDH18A | rs556267618 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **DEND** syndrome

DEND syndrome is a very rare, generally severe form of neonatal diabetes mellitus (NDM, see this term) characterized by a triad of developmental delay, epilepsy, and neonatal diabetes.

## Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| ABCC8    | rs1048095   | AA       |
| INS IGF2 | rs80356663  | GG       |
| INS IGF2 | rs80356669  | GG       |
| INS IGF2 | rs80356664  | CC       |
| INS IGF2 | rs797045623 | CC       |
| KCNJ11   | rs80356611  | CC       |
| KCNJ11   | rs193929356 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Denys-Drash syndrome**

A rare genetic, syndromic glomerular disorder characterized by the association of nephropathy presenting as persistent proteinuria or overt nephrotic syndrome, Wilms tumor and genitourinary structural defects. In addition, disorders of testicular development are common in subjects with 46,XY karyotype.

## Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| WT1  | rs121907900  | GG       |
| WT1  | rs121907901  | CC       |
| WT1  | rs121907902  | TT       |
| WT1  | rs28941778   | CC       |
| WT1  | rs587776576  | CC       |
| WT1  | rs121907906  | GG       |
| WT1  | rs1423753702 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Mitochondrial DNA depletion syndrome, encephalomyopathic form

Mitochondrial DNA depletion syndrome, encephalomyopathic form is a group of mitochondrial DNA diseases maintenance syndrome characterized predominantly neuromuscular manifestations with typically infantile onset of hypotonia, lactic acidosis, psychomotor progressive hyperkinetic-dystonic disorders, external ophtalmoplegia, sensosineural hearing loss, generalized seizures and variable renal tubular dysfunction. It may be associated with a broad range of other clinical features.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| RRM2B | rs515726196 | AA       |
| RRM2B | rs776184830 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Mitochondrial DNA depletion syndrome, hepatocerebral form due to DGUOK deficiency

A rare immune disease characterized by severely reduced mitochondrial DNA content due to DGUOK deficiency typically manifesting with early-onset liver dysfunction, psychomotor delay, hypotonia, rotary nystagmus that develops into opsoclonus, lactic acidosis and hypoglycemia.

Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| DGUOK | rs748597500 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Acral peeling skin syndrome

A rare peeling skin syndrome characterized by superficial peeling of the skin predominantly affecting the dorsa of the hands and feet.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TGM5 | rs112292549 | CC       |
| TGM5 | rs115677373 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Dysequilibrium syndrome

Dysequilibrium syndrome (DES) is a non-progressive cerebellar disorder characterized by ataxia associated with an intellectual disability, delayed ambulation and cerebellar hypoplasia.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| VLDLR | rs770269674 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Cognitive impairment-coarse facies-heart defects-obesity-pulmonary involvement-short stature-skeletal dysplasia

A rare genetic multiple congenital anomalies/dysmorphic syndrome characterized by global developmental delay, intellectual disability, short stature, skeletal abnormalities (such as brachydactyly and vertebral anomalies), obesity, cardiac, respiratory, and genitourinary anomalies, and dysmorphic facial features (including coarse facies, thick eyebrows, synophrys, hypertelorism, short, upturned nose, and long philtrum). Additional reported manifestations are microcephaly, hearing impairment, cataract, and gastroesophageal reflux.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| AFF4 | rs786205680 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# TBCK-related intellectual disability syndrome

TBCK-related intellectual disability syndrome is a rare, genetic, syndromic intellectual disability characterized by usually profound intellectual disability with absent speech, severe infantile hypotonia with decreased or absent reflexes, markedly slow motor development (with no progress beyond the ability to sit independently), early-onset epilepsy, strabismus and post-natal onset of progressive brain atrophy (incl. loss of brain volume, ex vacuo ventriculomegaly, dysgenesis of corpus callosum, white matter abnormalities ranging from non-specific changes to leukodystrophy). difficulties, respiratory insufficiency, osteoporosis and variable craniofacial dysmorphisms (incl. plagio/brachicephaly, bitemporal narrowing, high-arched eyebrows, high nasal bridge, anteverted nares, high palate, tented upper lip) may constitute additional clinical features.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ТВСК | rs575822089 | GG       |
| ТВСК | rs376699648 | TT       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Severe intellectual disability-progressive spastic diplegia syndrome

Severe intellectual disability-progressive spastic diplegia syndrome is a rare, genetic, syndromic intellectual disability disorder characterized by intellectual disability, significant motor delay, severe speech impairment, early-onset truncal hypotonia with progressive distal hypertonia/spasticity, microcephaly, and behavioral anomalies (autistic features, aggression or auto-aggressive behavior, sleep disturbances). Variable facial dysmorphism includes broad nasal tip with small alae nasi, long and/or flat philtrum, thin upper lip vermillion. Visual impairment (strabismus, hyperopia, myopia) is commonly associated.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CTNNB1 | rs397514554 | CC       |
| CTNNB1 | rs797044875 | GG       |
| CTNNB1 | rs863224864 | TT       |
| CTNNB1 | rs775104326 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# X-linked intellectual disability-cerebellar hypoplasia syndrome

X-linked intellectual deficit-cerebellar hypoplasia, also known as OPHN1 syndrome, is a rare syndromic form of cerebellar dysgenesis characterized by moderate to severe intellectual deficit and cerebellar abnormalities.

Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| OPHN1 | rs587784234 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# X-linked intellectual disability-hypotonia-movement disorder syndrome

A rare, genetic, syndromic intellectual disability characterized by mild to severe intellectual disability associated with variable features, including hypotonia, dyskinesia, spasticity, wide-based gait, microcephaly, epilepsy and behavioral problems. MRI imaging may show a corpus callosum hypoplasia or ventricular enlargement. Other variable features, such as joint hyperlaxity, skin pigmentary abnormalities, and visual impairment, have also been reported.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| DDX3X | rs796052231 | CC       |
| DDX3X | rs796052232 | TT       |
| DDX3X | rs796052235 | GG       |
| DDX3X | rs796052226 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# X-linked intellectual disability-Dandy-Walker malformationbasal ganglia disease-seizures syndrome

X-linked Dandy-Walker malformation with intellectual disability, basal ganglia disease and seizures (XDIBS), or Pettigrew syndrome is a central nervous system malformation characterized by severe intellectual deficit, early hypotonia with progression to spasticity and contractures, choreoathetosis, seizures, dysmorphic face (long face with prominent forehead), and brain imaging abnormalities such as Dandy-Walker malformation (see this term), and iron deposition.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| AP1S2 | rs587777542 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# X-linked intellectual disability-psychosis-macroorchidism syndrome

An X-linked syndromic intellectual disability characterized by developmental delay, variable degree of intellectual disability, speech delay or absent speech, pyramidal signs, tremor, macroorchidism and variable mood and behavior problems, including psychosis and autistic-like behavior. Males are predominantly affected, some females show lower cognitive abilities.

### Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| MECP2 | rs63094662 | CC       |
| MECP2 | rs28934908 | GG       |
| MECP2 | rs61751444 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Intellectual disability-expressive aphasia-facial dysmorphism syndrome

A rare genetic syndromic intellectual disability characterized by moderate to severe intellectual deficiency, language deficit (completely absent or significantly impaired speech), and distinctive facial dysmorphism (long face, straight eyebrows, and, less frequently, low-set ears and cafe-au-lait spots). Additional, variably observed features include motor delays, behavioral difficulties, and seizures.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SETBP1 | rs606231272 | CC       |
| SETBP1 | rs606231273 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Intellectual disability-cataracts-calcified pinnae-myopathy syndrome

Intellectual disability-cataracts-calcified pinnae-myopathy syndrome is a rare, genetic intellectual disability syndrome characterized by macrocephaly, hypotonia, dysmorphic facial features (wide forehead, ptosis, downslanting palpebral fissures, enlarged and calcified external ears, large jaw), sparse body hair, tall stature, and intellectual disability. Hearing loss, insulin-resistant diabetes, and progressive distal muscle wasting (leading to joint contractures) have also been reported in adulthood. Rare manifestations include behavioral abnormalities (aggression and restlessness), hypothyroidism, cerebral calcification, ataxia, and peripheral neuropathy.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| ZBTB20 | rs483353069 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Intellectual disability-seizures-hypophosphatasia-ophthalmic-skeletal anomalies syndrome

The syndrome of intellectual disability, seizures, hypotonia, ophthalmologic and skeletal anomalies is a rare congenital glycosylation disorder. It presents with neonatal hypotonia, developmental delays, and significant intellectual disability. Infants experience seizures, initially during fever, evolving to unprovoked seizures. Vision is affected with esotropia and nystagmus. Brain atrophy is progressive, alongside skeletal issues like brachycephaly, scoliosis, and osteopenia. Dysmorphic features include a distinct face with a high forehead, short nose, and facial hypotonia. Cardiac and urogenital abnormalities, as well as low alkaline phosphatase levels, can also occur.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1079 | rs200790673 | AA       |
| PIGT    | rs201317502 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Intellectual disability-macrocephaly-hypotonia-behavioral abnormalities syndrome

A rare, syndromic intellectual disability characterized by hypotonia, global developmental delay, limited or absent speech, intellectual disability, macrocephaly, mild dysmorphic features, seizures and autism spectrum disorder. Associated ophthalmologic, heart, skeletal and central nervous system anomalies have been reported.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| PPP2R5D | rs863225079 | GG       |
| PPP2R5D | rs863225081 | GG       |
| PPP2R5D | rs863225080 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Intellectual disability-severe speech delay-mild dysmorphism syndrome

Intellectual disability-severe speech delay-mild dysmorphism syndrome is a rare, genetic, syndromic intellectual disability disorder, with highly variable phenotype, typically characterized by mild to severe global development delay, severe speech impairment, mild to severe intellectual disability, dysphagia, hypotonia, relative to true macrocephaly, and behavioral problems that may include autistic features, hyperactivity, and mood lability. Facial gestalt typically features a broad, prominent forehead, hypertelorism, downslanting palpebral fissures, ptosis, a short bulbous nose with broad tip, thick vermilion border, wide, and open mouth with downturned corners. Brain, cardiac, urogenital and ocular malformations may be associated.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FOXP1 | rs794727155 | GG       |
| FOXP1 | rs797045586 | CC       |
| FOXP1 | rs797045584 | GG       |
| FOXP1 | rs869025203 | GG       |
| FOXP1 | rs869025202 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Multiple mitochondrial dysfunctions syndrome type 4

rare, severe, genetic, neurometabolic disease characterized infantile-onset by of progressive neurodevelopmental regression, optic atrophy nystagmus and diffuse white matter disease. Affected individuals usually have central hypotonia that progresses to limb spasticity and hyperreflexia, eventually resulting in a vegetative state. Recurrent chest infections are frequently associated and seizures (usually generalized tonic-clonic) may occasionally be observed. Brain magnetic resonance imaging shows diffuse bilateral symmetric abnormalities in the cerebral periventricular white matter, with variable lesions in other areas but sparing the basal ganglia.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ISCA2 | rs730882246 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# CNTNAP2-related developmental and epileptic encephalopathy

A rare, genetic, syndromic neurodevelopmental disorder characterized by moderate to mostly severe intellectual disability, speech impairment with normal or mildly delayed motor development and early-onset seizures often accompanied by developmental regression. Autistic behavior and stereotypic movements are common.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CNTNAP | rs730880276 | GG       |
| CNTNAP | rs398124268 | GG       |
| CNTNAP | rs752550849 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Spondyloperipheral dysplasia-short ulna syndrome

Spondyloperipheral dysplasia-short ulna syndrome is a rare, genetic, primary bone dysplasia, with highly variable phenotype, typically characterized by platyspondyly, brachydactyly type E changes (short metacarpals and metatarsals, short distal phalanges in hands and feet), bilateral short ulnae and mild short stature. Other reported features include additional skeletal findings (e.g. midface hypoplasia, degenerative changes in proximal femora, limited elbow extension, bilateral sacralization of L5, clubfeet), as well as myopia, hearing loss, and intellectual disability.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL2A1 | rs121912880 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Spondylometaphyseal dysplasia-cone-rod dystrophy syndrome

Spondylometaphyseal dysplasia-cone-rod dystrophy syndrome is characterised by the association of spondylometaphyseal dysplasia (marked by platyspondyly, shortening of the tubular bones and progressive metaphyseal irregularity and cupping), with postnatal growth retardation and progressive visual impairment due to conerod dystrophy. So far, it has been described in eight individuals. Transmission appears to be autosomal recessive.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| PCYT1A | rs587777189 | GG       |
| PCYT1A | rs587777190 | GG       |
| PCYT1A | rs587777191 | CC       |
| PCYT1A | rs587777192 | GG       |
| PCYT1A | rs540053239 | CC       |
| PCYT1A | rs587777194 | CC       |
| PCYT1A | rs587777195 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Corneal intraepithelial dyskeratosis-palmoplantar hyperkeratosis-laryngeal dyskeratosis syndrome

Corneal intraepithelial dyskeratosis-palmoplantar hyperkeratosis-laryngeal dyskeratosis syndrome is a rare, genetic, corneal dystrophy disorder characterized by corneal opacification and dyskeratosis (which may cause visual impairment), associated with systemic features including palmoplantar hyperkeratosis, laryngeal dyskeratosis, pruritic hyperkeratotic scars, chronic rhintis, dyshidrosis and/or nail thickening.

### Your genetic map

| Gene   | SNP          | Genotype |
|--------|--------------|----------|
| NI RP1 | rs1057519493 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Corneal dystrophy-perceptive deafness syndrome

Corneal dystrophy-perceptive deafness (CDPD) or Harboyan syndrome is a degenerative corneal disorder characterized by the association of congenital hereditary endothelial dystrophy (CHED; see this term) with progressive, postlingual sensorineural hearing loss.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC4A11 | rs121909394 | AA       |
| SLC4A11 | rs759540763 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Donnai-Barrow syndrome**

A multiple congenital malformation syndrome characterized by typical facial dysmorphism, myopia and other ocular findings, hearing loss, agenesis of the corpus callosum, low-molecular-weight proteinuria, and variable intellectual disability. Congenital diaphragmatic hernia (CDH) and/or omphalocele are common.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| LRP2 | rs80338747  | AA       |
| LRP2 | rs752197557 | CC       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Dravet syndrome**

A rare, genetic, developmental and epileptic encephalopathy characterized by infantile onset of intractable seizures that are often febrile, and associated with cognitive and motor impairment.

# Multivariate analysis

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=33069

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1027 | rs121917912 | CC       |
| LOC1027 | rs121917960 | CC       |
| LOC1027 | rs121917986 | CC       |
| LOC1027 | rs121917919 | AA       |
| LOC1027 | rs121917915 | CC       |
| LOC1027 | rs121917976 | CC       |
| LOC1027 | rs121917922 | GG       |
| LOC1027 | rs121917980 | CC       |
| LOC1027 | rs121917921 | GG       |
| LOC1027 | rs121917981 | AA       |
| LOC1027 | rs121918738 | GG       |
| LOC1027 | rs121918739 | TT       |
| LOC1027 | rs121918740 | AA       |
| LOC1027 | rs121918741 | CC       |
| LOC1027 | rs121918742 | CC       |
| LOC1027 | rs121918791 | GG       |
| LOC1027 | rs121918763 | GG       |
| LOC1027 | rs121918757 | AA       |
| LOC1027 | rs121918751 | AA       |
| LOC1027 | rs139300715 | GG       |
| LOC1027 | rs727504136 | GG       |
| LOC1027 | rs794726737 | CC       |
| LOC1027 | rs794726739 | GG       |
| LOC1027 | rs794726845 | GG       |
| LOC1027 | rs779614747 | GG       |
| LOC1027 | rs794726801 | GG       |
| LOC1027 | rs794726769 | CC       |
| LOC1027 | rs794726781 | GG       |
| LOC1027 | rs794726780 | CC       |
| LOC1027 | rs794726722 | TT       |
| LOC1027 | rs794726763 | CC       |



# **Dubin-Johnson syndrome**

Dubin-Johnson syndrome (DJS) is a benign, inherited liver disorder characterized clinically by chronic, predominantly conjugated, hyperbilirubinemia and histopathologically by black-brown pigment deposition in parenchymal liver cells.

## Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| ABCC2 | rs56199535 | CC       |
| ABCC2 | rs72558199 | CC       |
| ABCC2 | rs34937870 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## **Dyggve-Melchior-Clausen disease**

A rare, genetic primary bone dysplasia of the spondylo-epimetaphyseal dysplasia (SEMD) group characterized by progressive short-trunked dwarfism, protruding sternum, microcephaly, intellectual disability and pathognomonic radiological findings (generalized platyspondyly with doublehumped end plates, irregularly ossified femoral heads, a hypoplastic odontoid, and a lace-like appearance of iliac crests)

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DYM  | rs775414124 | TT       |
| DYM  | rs768509996 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Cardiac-valvular Ehlers-Danlos syndrome

A rare form of Ehlers-Danlos syndrome (EDS) characterized by soft skin, skin hyperextensibility, easy bruisability, atrophic scar formation, joint hypermobility and severe, progressive cardiac valvular defects comprising mitral and/or aortic valve insufficiency.

## Your genetic map

| Gene   | SNP        | Genotype |
|--------|------------|----------|
| COL1A2 | rs67162110 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hypermobile Ehlers-Danlos syndrome

Ehlers-Danlos syndrome, hypermobility type (HT-EDS) is the most frequent form of EDS (see this term), a group of hereditary connective tissue diseases, and is characterized by joint hyperlaxity, mild skin hyperextensibility, tissue fragility and extra-musculoskeletal manifestations.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL3A1 | rs863224860 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Musculocontractural Ehlers-Danlos syndrome**

A rare systemic disease characterized by congenital multiple contractures, characteristic craniofacial features (like large fontanel, hypertelorism, downslanting palpebral fissures, blue sclerae, ear deformities, high palate) evident at birth or in early infancy, and characteristic cutaneous features like skin hyperextensibility, skin fragility with atrophic scars, easy bruising, and increased palmar wrinkling. Additional features include recurrent/chronic dislocations, chest and spinal deformities, peculiarly shaped fingers, colonic diverticula, pneumothorax, and urogenital and ophthalmological abnormalities, among others. Molecular testing is obligatory to confirm the diagnosis.

#### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CHST14 | rs121908257 | GG       |
| CHST14 | rs121908258 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Periodontal Ehlers-Danlos syndrome

A rare type of Ehlers-Danlos syndrome characterized by childhood or adolescence onset of severe, intractable periodontitis, lack of attached gingiva, and presence of pretibial plaques. Additional manifestations are easy bruising, hypermobility mainly of the distal joints, skin hyperextensibility and fragility, abnormal scarring, recurrent infections, hernias, marfanoid facial features, acrogeria, and prominent vasculature.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| C1S  | rs886040975 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Vascular Ehlers-Danlos syndrome

A rare genetic connective tissue disorder typically characterized by the association of unexpected organ fragility (arterial/bowel/gravid uterine rupture) with inconstant physical features as thin, translucent skin, easy bruising and acrogeric traits.

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=286

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| COL3A1 | rs113485686 | GG       |
| COL3A1 | rs121912927 | GG       |
| COL3A1 | rs397509372 | GG       |
| COL3A1 | rs121912917 | GG       |
| COL3A1 | rs121912918 | GG       |
| COL3A1 | rs397509376 | GG       |
| COL3A1 | rs121912921 | GG       |
| COL3A1 | rs121912925 | GG       |
| COL3A1 | rs121912926 | GG       |
| COL3A1 | rs267599120 | GG       |
| COL3A1 | rs587779424 | GG       |
| COL3A1 | rs587779427 | GG       |
| COL3A1 | rs587779429 | TT       |
| COL3A1 | rs587779431 | GG       |
| COL3A1 | rs587779437 | GG       |
| COL3A1 | rs587779438 | GG       |
| COL3A1 | rs587779442 | GG       |
| COL3A1 | rs587779444 | GG       |
| COL3A1 | rs587779450 | GG       |
| COL3A1 | rs587779454 | GG       |
| COL3A1 | rs587779461 | GG       |
| COL3A1 | rs587779471 | GG       |
| COL3A1 | rs587779473 | GG       |
| COL3A1 | rs587779477 | GG       |
| COL3A1 | rs587779478 | GG       |
| COL3A1 | rs587779479 | CC       |
| COL3A1 | rs587779481 | GG       |
| COL3A1 | rs587779482 | GG       |
| COL3A1 | rs587779483 | GG       |
| COL3A1 | rs587779487 | GG       |
| COL3A1 | rs587779492 | GG       |
|        |             |          |



# Neonatal encephalomyopathy-cardiomyopathy-respiratory distress syndrome

A rare mitochondrial disease characterized by neonatal onset of severe cardiac and/or neurologic signs and symptoms mostly associated with a fatal outcome in the neonatal period or in infancy, although a milder phenotype with later onset and slowly progressive neurologic deterioration has also been reported. Clinical manifestations are variable and include respiratory insufficiency, hypotonia, cardiomyopathy, and seizures. Serum lactate is elevated in most cases. Brain imaging may show cerebellar atrophy or hypoplasia.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| COQ4 | rs143441644 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Interstitial lung disease-nephrotic syndrome-epidermolysis bullosa syndrome

Congenital nephrotic syndrome-interstitial lung disease-epidermolysis bullosa syndrome is a life-threatening multiorgan disorder which develops in the first months of life, presenting with respiratory distress and proteinuria in the nephrotic range, and leading to severe interstitial lung disease and renal failure. Some patients additionally display cutaneous alterations, ranging from blistering and skin erosions to an epidermolysis bullosa-like phenotype, with toe nail dystrophy and sparse hair.

#### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ITGA3 | rs540704248 | CC       |
| ITGA3 | rs797045048 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Progressive epilepsy-intellectual disability syndrome, Finnish type

Progressive epilepsy-intellectual deficit, Finnish type (also known as Northern epilepsy) is a subtype of neuronal ceroid lipofuscinosis (NCL; see this term) characterized by seizures, progressive decline of intellectual capacities and variable loss of vision.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CLN8 | rs104894064 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Female restricted epilepsy with intellectual disability

Female restricted epilepsy with intellectual disability is a rare X-linked epilepsy syndrome characterized by febrile or afebrile seizures (mainly tonic-clonic, but also absence, myoclonic, and atonic) starting in the first years of life and, in most cases, developmental delay and intellectual disability of variable severity. Behavioral disturbances (e.g. autistic features, hyperactivity, and aggressiveness) are also frequently associated. This disease affects exclusively females, with male carriers being unaffected, despite an X-linked inheritance.

## Your genetic map

| Gene   | SNP          | Genotype |
|--------|--------------|----------|
| PCDH19 | rs267606933  | GG       |
| PCDH19 | rs398123603  | TT       |
| PCDH19 | rs587784299  | TT       |
| PCDH19 | rs796052812  | GG       |
| PCDH19 | rs796052839  | TT       |
| PCDH19 | rs796052802  | GG       |
| PCDH19 | rs796052837  | GG       |
| PCDH19 | rs796052800  | CC       |
| PCDH19 | rs796052799  | GG       |
| PCDH19 | rs797045873  | GG       |
| PCDH19 | rs1060502176 | GG       |
| PCDH19 | rs796052813  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Gingival fibromatosis-hypertrichosis syndrome

A rare autosomal dominant disorder characterized by a generalized enlargement of the gingiva occurring at birth or during childhood that is associated with generalized hypertrichosis developing at birth, during the first years of life, or at puberty and predominantly affecting the face, upper limbs, and midback.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ABCA5 | rs199753304 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Floating-Harbor syndrome

A multiple congenital anomalies/dysmorphic syndromeintellectual disability that is characterized by facial dysmorphism, short stature with delayed bone age, and expressive language delay.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SRCAP | rs199469464 | CC       |
| SRCAP | rs199469465 | CC       |
| SRCAP | rs587784444 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Bloom's Syndrome**

Bloom syndrome is a rare disorder associated with pre- and postnatal growth deficiency, a telangiectatic erythematous rash of the face and other sun-exposed areas, insulin resistance and predisposition to early onset and recurrent cancer of multiple organ systems.

## Your genetic map

| Gene | SNP          | Genotype |
|------|--------------|----------|
| BLM  | rs367543036  | GG       |
| BLM  | rs367543029  | GG       |
| BLM  | rs367543017  | CC       |
| BLM  | rs587779884  | CC       |
| BLM  | rs587783037  | CC       |
| BLM  | rs730881428  | TT       |
| BLM  | rs1057516964 | GG       |
| BLM  | rs1356090839 | GG       |
| BLM  | rs200389141  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Frasier syndrome**

A rare genetic, syndromic glomerular disorder characterized by the association of progressive glomerular nephropathy and 46,XY complete gonadal dysgenesis with a high risk of developing gonadoblastoma.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| WT1  | rs587776577 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Gerstmann-Straussler-Scheinker syndrome

A rare inherited human prion disease characterized by adult onset of slowly progressive cerebellar ataxia, with dementia developing relatively late in the disease course (classic ataxic phenotype). Patients may present with gait disturbances and frequent falls, dysarthria, dysphagia, nystagmus, dysmetry, and eventually pancerebellar syndrome, myoclonus, spasticity, severe dementia, and mutism. The disease is invariably fatal after five years on average. Neuropathological hallmark is the presence of numerous multicentric prion protein plaques in the cerebral and cerebellar cortex.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| PRNP | rs11538758 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Gitelman syndrome

A rare syndrome characterized by hypokalemic metabolic alkalosis in combination with significant hypomagnesemia and low urinary calcium excretion.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| MIR6863 | rs199974259 | GG       |
| SLC12A3 | rs121909382 | CC       |
| SLC12A3 | rs267607050 | CC       |
| SLC12A3 | rs568513106 | TT       |
| SLC12A3 | rs374163823 | GG       |
| SLC12A3 | rs140012781 | CC       |
| SLC12A3 | rs749098014 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hermansky-Pudlak syndrome due to BLOC-3 deficiency

Hermansky-Pudlak syndrome with pulmonary fibrosis as a complication includes two types (HPS-1 and HPS-4) of Hermansky-Pudlak syndrome (HPS; see this term), a multisystem disorder characterized by oculocutaneous albinism, bleeding diathesis and, in some cases, pulmonary fibrosis or granulomatous colitis.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| HPS1 | rs121908385 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hermansky-Pudlak syndrome due to BLOC-2 deficiency

Hermansky-Pudlak syndrome without pulmonary fibrosis as a complication includes three relatively mild types (HPS-3, HPS-5 and HPS-6) of Hermansky-Pudlak syndrome (HPS; see this term), a multi-system disorder characterized by ocular or oculocutaneous albinism, bleeding diathesis and, in some cases, granulomatous colitis.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| HPS3 | rs201227603 | GG       |
| HPS3 | rs121908316 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hydrops-lactic acidosis-sideroblastic anemia-multisystemic failure syndrome

A rare mitochondrial disease characterized by prenatal complications including oligohydramnios, fetal growth restriction, hydrops, and anemia, followed by severe lactic hyaline acidosis, membrane disease, pulmonary hypertension, cardiac anomalies, liver dysfunction, urogenital abnormalities and progressive renal disease, seizures, thrombocytopenia, and sideroblastic anemia resulting in multisystem organ failure and death shortly after birth. Less severely affected patients surviving the neonatal period and showing sensorineural hearing loss and developmental delay have been reported.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| LARS2 | rs786205560 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hyper-IgM syndrome with susceptibility to opportunistic infections

Hyper-IgM syndrome with susceptibility to opportunistic infections is a rare, genetic, non-severe combined immunodeficiency disorder characterized by normal or elevated IgM serum levels with low or absent IgG, IgA and IgE serum concentrations, which manifests with recurrent or severe bacterial infections and increased susceptibility to opportunistic infections (in particular, pneumonia due to P. jiroveci, but also chronic cryptosporidial, cryptococcal, cytomegalovirus and toxoplasma infections). Hematologic disorders (neutropenia, anemia, thrombocytopenia) are frequently associated. Immunologic findings reveal decreased numbers of CD27+ memory B cells and lack of germinal center formation.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CD40LG | rs104894769 | TT       |
| CD40LG | rs104894774 | TT       |
| CD40LG | rs104894777 | TT       |
| CD40LG | rs104894778 | CC       |
| CD40LG | rs193922135 | CC       |
| CD40LG | rs193922136 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Autosomal dominant hyper-IgE syndrome

A very rare primary immunodeficiency disorder characterized by the clinical triad of high serum IgE (>2000 IU/ml), recurring staphylococcal skin abscesses, and recurrent pneumonia with formation of pneumatoceles.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| STAT3 | rs113994135 | GG       |
| STAT3 | rs113994139 | CC       |
| STAT3 | rs193922716 | GG       |
| STAT3 | rs193922717 | CC       |
| STAT3 | rs193922719 | TT       |
| STAT3 | rs193922720 | CC       |
| STAT3 | rs193922721 | TT       |
| STAT3 | rs193922722 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hyperphosphatasia-intellectual disability syndrome

A rare, congenital disorder of glycosylation-related bone disorder characterized by hypotonia, severe developmental delay, intellectual disability, seizures, increased serum alkaline phosphatase, short distal phalanges with hypoplastic nails, and dysmorphic facial features. In some cases, cleft palate, megacolon, anorectal malformations, and congenital heart defects have been reported.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| PIGV | rs139073416 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hyperinsulinism-hyperammonemia syndrome

Hyperinsulinism-hyperammonemia syndrome (HIHA) is a frequent form of diazoxide-sensitive diffuse hyperinsulinism (see this term), characterized by an excessive/ uncontrolled insulin secretion (inappropriate for the level of glycemia), asymptomatic hyperammonemia and recurrent episodes of profound hypoglycemia induced by fasting and protein rich meals, requiring rapid and intensive treatment to prevent neurological sequelae. Epilepsy and cognitive deficit that are unrelated to hypoglycemia may also occur.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| GLUD1 | rs121909731 | GG       |
| GLUD1 | rs121909734 | CC       |
| GLUD1 | rs797045597 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hypohidrosis-enamel hypoplasia-palmoplantar keratodermaintellectual disability syndrome

Hypohidrosis-enamel hypoplasia-palmoplantar keratoderma-intellectual disability syndrome is a rare, intellectual syndromic disability disorder characterized by severe intellectual disability with significant speech and language impairment, hypohydrosis (often resulting in hyperthermia) with normal sweat gland hypoplasia, appearance, tooth enamel palmoplantar hyperkeratosis and a high frequency of microcephaly. Mild facial dysmorphism, including lateral flaring of the eyebrows, broad nasal tip, and thick vermilion border, may also be observed.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| COG6 | rs730882236 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hypoplastic pancreas-intestinal atresia-hypoplastic gallbladder syndrome

Hypoplastic pancreas-intestinal atresia-hypoplastic gallbladder syndrome is a rare, potentially fatal, genetic, visceral malformation syndrome characterized by neonatal diabetes, hypoplastic or annular pancreas, duodenal and jejunal atresia, as well as gallbladder aplasia or hypoplasia. Patients typically present intrauterine growth restriction, failure to thrive, malnutrition, intestinal malrotation, malabsorption, conjugated hyperbilirubinemia, acholia and infections. Cardiac anomalies may also be associated.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| RFX6 | rs587780440 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Pancreatic hypoplasia-diabetes-congenital heart disease syndrome

A rare, syndromic diabetes mellitus characterized by partial pancreatic agenesis, diabetes mellitus, and heart anomalies (including transposition of the great vessels, ventricular or atrial septal defects, pulmonary stenosis, or patent ductus arteriosis).

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| GATA6 | rs387906818 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hypotonia-speech impairment-severe cognitive delay syndrome

Hypotonia-speech impairment-severe cognitive delay syndrome is a rare, genetic neurodegenerative disorder characterized by severe, persistent hypotonia (presenting at birth or in early infancy), severe global developmental delay (with poor or absent speech, difficulty or inability to roll, sit or walk), profound intellectual disability, and failure to thrive. Additional manifestations include microcephaly, progressive peripheral spasticity, bilateral strabismus and nystagmus, constipation, and variable dysmorphic facial features (including plagiocephaly, broad forehead, small nose, low-set ears, micrognathia and open mouth with tented upper lip).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| UNC80 | rs864321623 | GG       |
| UNC80 | rs200659479 | CC       |
| UNC80 | rs864321622 | CC       |
| UNC80 | rs869025317 | GG       |
| UNC80 | rs869025319 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Holt-Oram syndrome**

A genetic syndrome with limb reduction defects characterized by skeletal abnormalities of the upper limbs and mild-to-severe congenital cardiac defects.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TBX5 | rs104894378 | CC       |
| TBX5 | rs104894382 | GG       |
| TBX5 | rs863223776 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Hutchinson-Gilford progeria syndrome**

Hutchinson-Gilford progeria syndrome is a rare, fatal, autosomal dominant and premature aging disease, beginning in childhood and characterized by growth reduction, failure to thrive, a typical facial appearance (prominent forehead, protuberant eyes, thin nose with a beaked tip, thin lips, micrognathia and protruding ears) and distinct dermatologic features (generalized alopecia, aged-looking skin, sclerotic and dimpled skin over the abdomen and extremities, prominent cutaneous vasculature, dyspigmentation, nail hypoplasia and loss of subcutaneous fat).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| LMNA | rs58596362  | CC       |
| LMNA | rs267607547 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Ichthyosis follicularis-alopecia-photophobia syndrome

Ichthyosis follicularis - alopecia - photophobia (IFAP) is a rare genetic disorder characterized by the triad of ichthyosis follicularis, alopecia, and photophobia from birth.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| MBTPS2 | rs122468178 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Ichthyosis-prematurity syndrome

Ichthyosis prematurity syndrome is a rare, syndromic congenital ichthyosis characterized by premature birth (at gestational weeks 30-32, in general) in addition to thick, caseous and desquamating epidermis, neonatal respiratory asphyxia, and persistent eosinophilia. After the perinatal period, a spontaneous improvement in the health of affected patients is observed and skin features (vernix caseosa-like scale) evolve into a mild presentation of flat follicular hyperkeratosis with atopy.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC27A4 | rs137853134 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Imerslund-Gräsbeck syndrome

Imerslund-Grasbeck syndrome (IGS) or selective vitamin B12 (cobalamin) malabsorption with proteinuria is a rare autosomal recessive disorder characterized by vitamin B12 deficiency commonly resulting in megaloblastic anemia, which is responsive to parenteral vitamin B12 therapy and appears in childhood.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CUBN | rs386833778 | GG       |
| CUBN | rs143944436 | GG       |
| CUBN | rs374417889 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Early-onset seizures-distal limb anomalies-facial dysmorphismglobal developmental delay syndrome

A rare genetic multiple congenital anomalies/dysmorphic syndrome characterized by variable developmental delay, intellectual disability, early-onset seizures, and facial dysmorphism (including arched eyebrows, long palpebral fissures, prominent nasal bridge, large ears, thin upper lip, and high arched palate). Other reported features are microcephaly, hypotonia, growth retardation, congenital heart defects, and malformations of the fingers and toes, as well as additional neurologic manifestations (such as ataxia or spastic quadriplegia). Brain imaging may show hypoplastic corpus callosum, white matter abnormalities, or cortical atrophy.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| OTUD6B | rs368313959 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Complete androgen insensitivity syndrome

Complete androgen insensitivity syndrome (CAIS) is a form of androgen insensitivity syndrome (AIS; see this term), a disorder of sex development (DSD), characterized by the presence of female external genitalia in a 46,XY individual with normal testis development but undescended testes and unresponsiveness to age-appropriate levels of androgens.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| AR   | rs137852562 | CC       |
| AR   | rs137852564 | GG       |
| AR   | rs137852565 | GG       |
| AR   | rs137852572 | GG       |
| AR   | rs137852594 | CC       |
| AR   | rs754201976 | GG       |
| AR   | rs9332970   | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Partial androgen insensitivity syndrome

A disorder of sex development (DSD) distinct from complete AIS (CAIS) characterized by the presence of abnormal genital development in a 46,XY individual with normal testis development and partial responsiveness to age-appropriate levels of androgens.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| AR   | rs137852569 | GG       |
| AR   | rs9332971   | GG       |
| AR   | rs137852577 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Acute infantile liver failure-multisystemic involvement syndrome

A rare, genetic, parenchymal hepatic disease characterized by acute liver failure, that occurs in the first year of life, which manifests with failure to thrive, hypotonia, moderate global developmental delay, seizures, abnormal liver function tests, microcytic anemia and elevated serum lactate. Other associated features include hepatosteatosis and fibrosis, abnormal brain morphology, and renal tubulopathy. Minor illness exacerbates deterioration of liver failure.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| NBAS | rs761330483 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Jackson-Weiss syndrome**

Jackson-Weiss syndrome (JWS) is a rare genetic disorder characterized by foot malformations (tarsal and metatarsal fusions; short, broad, medially deviated great toes) and in some patients craniosynostosis with facial anomalies. Hands are normal in affected patients.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FGFR1 | rs121909627 | GG       |
| FGFR2 | rs121918487 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Jeune syndrome

Jeune syndrome, also called asphyxiating thoracic dystrophy, is a short-rib dysplasia characterized by a narrow thorax, short limbs and radiological skeletal abnormalities including 'trident' aspect of the acetabula and metaphyseal changes.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| DYNC2LI | rs769975073 | GG       |
| DYNC2LI | rs745930390 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Johanson-Blizzard syndrome

Johanson-Blizzard syndrome (JBS) is a multiple congenital anomaly characterized by exocrine pancreatic insufficiency, hypoplasia/aplasia of the nasal alae, hypodontia, sensorineural hearing loss, growth retardation, anal and urogenital malformations, and variable intellectual disability.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| UBR1 | rs797045112 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Joubert syndrome with hepatic defect

Joubert syndrome with hepatic defect is a very rare subtype of Joubert syndrome and related disorders (JSRD, see this term) characterized by the neurological features of JS associated with congenital hepatic fibrosis (CHF).

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| TMEM67 | rs758948621 | AA       |
| TMEM67 | rs267607119 | TT       |
| TMEM67 | rs267607115 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Joubert syndrome with ocular defect

Joubert syndrome with ocular defect is, along with pure JS, the most frequent subtype of Joubert syndrome and related disorders (JSRD, see these terms) characterized by the neurological features of JS associated with retinal dystrophy.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| AHI1 | rs201391050 | GG       |
| AHI1 | rs397514726 | CC       |
| AHI1 | rs797045224 | TT       |
| AHI1 | rs797045223 | CC       |
| AHI1 | rs372659908 | GG       |
| AHI1 | rs863225147 | TT       |
| AHI1 | rs777668842 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Joubert syndrome with oculorenal defect

A rare subtype of Joubert syndrome (JS) and related disorders (JSRD) characterized by the neurological features of JS associated with both renal and ocular disease.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| TMEM216 | rs201108965 | GG       |
| TMEM216 | rs755459875 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Kabuki syndrome

A rare multiple congenital anomalies/neurodevelopmental disorder characterized by five major features: intellectual disability (typically mild to moderate), visceral malformations (frequently congenital heart defects), persistence of fetal fingertip pads, post-natal short stature, skeletal anomalies (brachymesophalangy, brachydactyly V, spinal column abnormalities and fifth digit clinodactyly) and specific facial features (arched and broad eyebrows, long palpebral fissures, eversion of the lower eyelid, large prominent, cupped ears, depressed nasal tip and short columella). Various additional features are frequently observed.

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=2322

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KMT2D | rs267607237 | CC       |
| KMT2D | rs398123704 | GG       |
| KMT2D | rs398123708 | GG       |
| KMT2D | rs398123721 | GG       |
| KMT2D | rs398123729 | CC       |
| KMT2D | rs587783700 | TT       |
| KMT2D | rs587783699 | GG       |
| KMT2D | rs587783698 | GG       |
| KMT2D | rs587783697 | CC       |
| KMT2D | rs587783696 | CC       |
| KMT2D | rs587783695 | GG       |
| KMT2D | rs587783692 | GG       |
| KMT2D | rs587783690 | GG       |
| KMT2D | rs587783688 | GG       |
| KMT2D | rs587783685 | GG       |
| KMT2D | rs587783682 | GG       |
| KMT2D | rs587783681 | GG       |
| KMT2D | rs587783729 | GG       |
| KMT2D | rs587783727 | GG       |
| KMT2D | rs556669370 | GG       |
| KMT2D | rs587783712 | GG       |
| KMT2D | rs587783711 | GG       |
| KMT2D | rs587783705 | CC       |
| KMT2D | rs587783714 | CC       |
| KMT2D | rs587783708 | CC       |
| KMT2D | rs727503979 | GG       |
| KMT2D | rs727503987 | GG       |
| KMT2D | rs727503983 | GG       |
| KMT2D | rs794727420 | GG       |
| KMT2D | rs794727688 | GG       |
| KMT2D | rs797045659 | GG       |
|       |             |          |



# Hypoxanthine guanine phosphoribosyltransferase partial deficiency

Kelley-Seegmiller syndrome (KSS) is the mildest form of hypoxanthine-guanine phosphoribosyltransferase (HPRT) deficiency (see this term), a hereditary disorder of purine metabolism, and is associated with uric acid overproduction (UAO) leading to urolithiasis, and early-onset gout.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| HPRT1 | rs137852484 | GG       |
| HPRT1 | rs398123241 | GG       |
| HPRT1 | rs369065223 | CC       |
| HPRT1 | rs137852490 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Stiff skin syndrome

Stiff skin syndrome is a rare, slowly progressive cutaneous disease characterized by rock-hard skin bound firmly to the underlying tissues (mainly on the shoulders, lower back, buttocks thighs), mild hypertrichosis and hyperpigmentation overlying the affected areas of skin, as well as limited joint mobility (mainly of large joints) with flexion contractures. Cutaneous nodules, affecting mostly distal interphalangeal joints, as well as extracutaneous manifestations, including diffuse entrapment neuropathy, scoliosis, a tiptoe gait and a narrow thorax, may be associated. Restrictive pulmonary changes, weakness, short stature and growth delay have also been reported. No vascular hyperreactivity, immunologic abnormalities nor visceral, muscular or bone involvement has been described.

#### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FBN1 | rs267606798 | CC       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Leigh syndrome

A progressive neurological disease defined by specific neuropathological features associating brainstem and basal ganglia lesions.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| ATP6    | rs199476138 | TT       |
| CYTB    | rs207459999 | GG       |
| MIR3944 | rs587776498 | GG       |
| MT TK   | rs118192098 | AA       |
| MT TV   | rs199476144 | CC       |
| ND6     | rs199476109 | TT       |
| SURF1   | rs782623477 | GG       |
| SURF1   | rs781948238 | CC       |
| SURF1   | rs782682492 | TT       |
| SURF2   | rs863224926 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Leigh syndrome with nephrotic syndrome

A rare, genetic neurometabolic disease characterized by encephalomyopathy (including developmental delay, nystagmus, progressive ataxia, dystonia, amyotrophy, visual loss, sensorineural deafness, seizures) and bilateral, symmetrical lesions in the basal ganglia or brainstem on imaging, associated with nephrotic syndrome.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| COQ2 | rs121918231 | CC       |
| COQ2 | rs121918233 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Lesch-Nyhan syndrome

Lesch-Nyhan syndrome (LNS) is the most severe form of hypoxanthine-guanine phosphoribosyltransferase (HPRT) deficiency (see this term), a hereditary disorder of purine metabolism, and is associated with uric acid overproduction (UAO), neurological troubles, and behavioral problems.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| HPRT1 | rs137852487 | GG       |
| HPRT1 | rs137852488 | GG       |
| HPRT1 | rs137852489 | CC       |
| HPRT1 | rs137852490 | CC       |
| HPRT1 | rs387906725 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Leukoencephalopathy with brain stem and spinal cord involvement-high lactate syndrome

This disease is characterised by progressive cerebellar ataxia with pyramidal and spinal cord dysfunction, associated with distinctive MRI anomalies and increased lactate in the abnormal white matter.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| DARS2 | rs121918207 | GG       |
| DARS2 | rs121918208 | GG       |
| DARS2 | rs142433332 | TT       |
| DARS2 | rs121918210 | GG       |
| DARS2 | rs182811621 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Leukoencephalopathy-thalamus and brainstem anomalies-high lactate syndrome

Leukoencephalopathy-thalamus and brainstem anomalieshigh lactate (LTBL) syndrome is a rare, genetic neurological disorder defined by early-onset of neurologic symptoms, biphasic clinical course, unique MRI features (incl. extensive, symmetrical, deep white matter abnormalities), and increased lactate in body fluids. The severe form is characterized by delayed psychomotor development, seizures, early-onset hypotonia, and persistently increased lactate levels. The mild form usually presents with irritability, psychomotor regression after six months of age, and temporary high lactate levels, with overall clinical improvement from the second year onward.

#### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| EARS2 | rs376103091 | GG       |
| EARS2 | rs201842633 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Leukoencephalopathy-dystonia-motor neuropathy syndrome

Leukoencephalopathy-dystonia-motor neuropathy syndrome is a peroxisomal neurodegenerative disorder characterized by spasmodic torticollis, dystonic head tremor, intention tremor, nystagmus, hyposmia, hypergonadotrophic hypogonadism with azoospermia. Slight cerebellar signs (left-sided intention tremor, balance and gait impairment) are also noted. Magnetic resonance imaging (MRI) shows bilateral hyperintense signals in the thalamus, butterfly-like lesions in the pons, and lesions in the occipital region, whereas nerve conduction studies of the lower extremities shows a predominantly motor and slight sensory neuropathy.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SCP2 | rs144132787 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



## Lissencephaly syndrome, Norman-Roberts type

Lissencephaly syndrome, Norman-Roberts type is characterised by the association of lissencephaly type I with craniofacial anomalies (severe microcephaly, a low sloping forehead, a broad and prominent nasal bridge and widely set eyes) and postnatal growth retardation.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| RELN | rs587780435 | GG       |
| RELN | rs587780437 | CC       |
| RELN | rs797045915 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Loeys-Dietz syndrome

Loeys-Dietz syndrome is a rare genetic connective tissue disorder characterized by a broad spectrum of craniofacial, vascular and skeletal manifestations with four genetic subtypes described forming a clinical continuum.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SMAD3  | rs587782977 | GG       |
| SMAD3  | rs730880214 | GG       |
| TGFBR1 | rs113605875 | GG       |
| TGFBR1 | rs111854391 | CC       |
| TGFBR1 | rs111426349 | CC       |
| TGFBR1 | rs727503470 | GG       |
| TGFBR1 | rs760079636 | GG       |
| TGFBR1 | rs886038919 | AA       |
| TGFBR2 | rs193922664 | TT       |
| TGFBR2 | rs397516840 | GG       |
| TGFBR2 | rs587782979 | GG       |
| TGFBR2 | rs727504292 | GG       |
| TGFBR2 | rs727503475 | GG       |
| TGFBR2 | rs727504421 | GG       |
| TGFBR2 | rs869025537 | GG       |
| TGFBR2 | rs886039551 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Macrocephaly-intellectual disability-autism syndrome

A rare, genetic, neurological disease characterized by association of macrocephaly, dysmorphic facial features and psychomotor delay leading to intellectual disability and autism spectrum disorder. Facial dysmorphism may include frontal bossing, hypertelorism, midface hypoplasia, depressed nasal bridge, short nose, and long philtrum.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1079 | rs387907053 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Macrocephaly-intellectual disability-left ventricular non compaction syndrome

Macrocephaly-intellectual disability-left ventricular non compaction syndrome is a rare, genetic, syndromic intellectual disability characterized by motor and cognitive developmental delay with language impairment, macrocephaly, hypotonia, dysmorphic facial features (including long face, slanting palpebral fissures and prominent. flattened nose) and left noncompaction cardiomyopathy. Patients also present skeletal abnormalities (e.g. scoliosis, finger clinodactyly, pes planus), slender build and shy behavior. Strabismus and various neurological signs (including ataxia, tremor and hyperreflexia) may be associated, as well as epilepsy, autism and MRI findings showing a small cerebellum and abnormalities of the corpus callosum. A phenotypic variant with no cardiac involvement has been reported.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| NONO | rs869025343 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Macrothrombocytopenia-lymphedema-developmental delayfacial dysmorphism-camptodactyly syndrome

A rare multiple congenital anomalies/dysmorphic syndrome intellectual disability characterized global developmental delay, intellectual disability, macrothrombocytopenia, lymphedema, and dysmorphic facial features (like synophrys, ptosis, eversion of the lateral portion of the lower eyelid, and thin upper lip, among others). Additional reported manifestations include cardiac and genitourinary anomalies, sensorineural hearing loss, ophthalmologic abnormalities, skeletal anomalies, and immunodeficiency. Brain imaging may show enlarged ventricles, cerebellar atrophy, or white matter changes.

#### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CDC42 | rs797044916 | AA       |
| CDC42 | rs797044870 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Lethal fetal brain malformation-duodenal atresia-bilateral renal hypoplasia syndrome

A rare genetic lethal multiple congenital anomalies/dysmorphic syndrome characterized by midgestation lethality and features of a ciliopathy. Clinical manifestations include hydrocephalus, cerebellar vermis hypoplasia, corpus callosum agenesis, duodenal atresia, gastrointestinal malrotation, bilateral renal hypoplasia, and dysmorphic craniofacial features (such as microcephaly, hypertelorism, low-set ears, prominent nose, short columella, cleft palate, micrognathia, and wide mouth).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CENPF | rs779120472 | GG       |
| CENPF | rs375014198 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **3MC syndrome**

A rare multiple congenital anomalies syndrome characterized by a spectrum of developmental anomalies including cleft lip and/or palate, craniosynostosis, intellectual disability and/or learning disability, radioulnar synostosis, genital and vesicorenal anomalies. Observed facial dysmorphism includes hypertelorism, blepharophimosis, blepharoptosis, high arched eyebrows. Less common features reported include anterior chamber defects, cardiac anomalies (e.g. ventricular septal defect; see this term), caudal appendage, umbilical hernia/omphalocele and diastasis recti.

### Your genetic map

 Gene
 SNP
 Genotype

 LOC1019
 rs149010496
 CC

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Marfan syndrome

Marfan syndrome is a systemic disease of connective tissue characterized by a variable combination of cardiovascular, musculo-skeletal, ophthalmic and pulmonary manifestations.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| TGFBR2 | rs121918715 | GG       |
| TGFBR2 | rs104893809 | CC       |
| TGFBR2 | rs104893815 | GG       |
| TGFBR2 | rs104893810 | CC       |
| TGFBR2 | rs104893811 | CC       |
| TGFBR2 | rs104893816 | GG       |
| TGFBR2 | rs104893819 | CC       |
| TGFBR2 | rs863224935 | TT       |
| TGFBR2 | rs886038794 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Marinesco Sjogren syndrome

Marinesco Sjogren syndrome (MSS) belongs to the group of autosomal recessive cerebellar ataxias. Cardinal features of MSS are cerebellar ataxia, congenital cataract, and delayed psychomotor development.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SIL1 | rs119456966 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Marshall syndrome

A malformation syndrome that is characterized by facial dysmorphism, severe hypoplasia of the nasal bones and frontal sinuses, ocular involvement, early-onset hearing loss, skeletal and anhidrotic ectodermal anomalies and short stature with spondyloepiphyseal dysplasia and early-onset osteoarthritis.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| COL11A1 | rs398122828 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# McCune-Albright syndrome

McCune-Albright syndrome (MAS) is classically defined by the clinical triad of fibrous dysplasia of bone (FD), cafe-aulait skin spots, and precocious puberty (PP).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GNAS | rs121913495 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# McKusick-Kaufman syndrome

A rare, genetic multiple congenital anomalies syndrome genitourinary characterized by malformations (hydrometrocolpos in females and in males, glanular hypospadias and prominent scrotal raphe), postaxial polydactyly that may affect only one or several limbs, and to a lesser extent cardiac defects. Hydrometrocolpos is due to either a congenital obstruction, imperforate hymen or vaginal atressia, and causes a palpable mass and possibly hydronephrosis. Other anomalies occasionally reported include choanal atresia, pituitary dysplasia, esophageal atresia and distal tracheoesophageal fistula, Hirschsprung disease, vertebral anomalies, and hydrops fetalis. The disorder is allelic with Bardet-Biedl, and as some phenotypic overlap has been observed, patients should be reevaluated in later childhood for retinistis pigmentosas and other signs of Bardet-Biedl syndrome.

#### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| MKKS | rs74315396 | TT       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Meacham syndrome

Meacham syndrome is a multiple malformation syndrome characterized by congenital diaphragmatic abnormalities, genital defects and cardiac malformations.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| WT1  | rs121907910 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Goldberg-Shprintzen megacolon syndrome

A rare multiple congenital anomalies/dysmorphic syndrome characterized by Hirschsprung disease, facial dysmorphism (sloping forehead, high arched eyebrows, long eyelashes, telecanthus/hypertelorism, ptosis, prominent ears, thick earlobes, prominent nasal bridge, thick philtrum, everted lower lip vermillion and pointed chin), global developmental delay, intellectual disability and variable cerebral abnormalities (focal or generalized polymicrogyria, or hypoplastic corpus callosum).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KIFBP | rs730882150 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Megalencephaly-severe kyphoscoliosis-overgrowth syndrome

A rare genetic multiple congenital anomalies/dysmorphic syndrome characterized by overgrowth and macrocephaly with megalencephaly apparent at birth, global developmental delay, intellectual disability, and dysmorphic facial features (including frontal bossing, long face, sparse eyebrows, hypertelorism, downslanting palpebral fissures, and prognathism). Patients may exhibit tall stature with dolichostenomelia, arachnodactyly, kyphoscoliosis, and joint laxity, as well as neurologic manifestations, such as hypotonia, gait ataxia, or seizures. Brain imaging may show increased white matter volume, thick corpus callosum, or small cerebellum.

#### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| HERC1 | rs753780877 | GG       |
| HERC1 | rs797045141 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Megalencephaly-capillary malformation-polymicrogyria syndrome

A rare developmental defect during embryogenesis that is characterized by growth dysregulation with overgrowth of the brain and multiple somatic tissues, with capillary skin malformations, megalencephaly (MEG) or hemimegalencephaly (HMEG), cortical brain abnormalities (in particular polymicrogyria), typical facial dysmorphisms, abnormalities of somatic growth with asymmetry of the body and brain, developmental delay and digital anomalies.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| PIK3CA | rs587776932 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Megalencephaly-polymicrogyria-postaxial polydactylyhydrocephalus syndrome

A rare syndrome with a central nervous system malformation as a major feature characterized by macrocephaly, megalencephaly, bilateral perisylvian polymicrogyria, variable degrees of ventriculomegaly/hydrocephalus, developmental delay and intellectual disability, oromotor dysfunction, hypotonia, seizures, and dysmorphic facial features (such as frontal bossing, low-set ears, a flat nasal bridge, and high-arched palate). Postaxial polydactyly of one or more extremities is also common.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CCND2 | rs587777620 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Familial atypical multiple mole melanoma syndrome

Familial atypical multiple mole melanoma (FAMMM) syndrome is an inherited genodermatosis characterized by the presence of multiple melanocytic nevi (often >50) and a family history of melanoma as well as, in a subset of patients, an increased risk of developing pancreatic cancer and other malignancies.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CDKN2A | rs199907548 | AA       |
| CDKN2A | rs730881677 | CC       |
| CDKN2A | rs1800586   | CC       |
| CDKN2A | rs45476696  | CC       |
| CDKN2A | rs749714198 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Congenital microcephaly-severe encephalopathy-progressive cerebral atrophy syndrome

Congenital microcephaly-severe encephalopathyprogressive cerebral atrophy syndrome is a rare, genetic, neurometabolic disorder characterized by progressive microcephaly, severe to profound global development delay, intellectual disability, seizures (typically tonic and/or myoclonic and frequently intractable), hyperekplexia, and axial hypotonia with appendicular spasticity, as well as hyperreflexia, dyskinetic quadriplegia, and abnormal brain morphology (cerebral atrophy with variable additional features including ventriculomeglay, pons and/or cerebellar hypoplasia, simplified gyral pattern and delayed myelination). Cortical blindness, feeding difficulties and respiratory insufficiency may also be associated.

#### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CZ1P | rs398122974 | GG       |
| CZ1P | rs398122975 | GG       |
| CZ1P | rs754043007 | GG       |
| CZ1P | rs148111963 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Postnatal microcephaly-infantile hypotonia-spastic diplegiadysarthria-intellectual disability syndrome

A rare genetic neurological disorder characterized by postnatal microcephaly, hypotonia during infancy followed in most cases by progressive spasticity mainly affecting the lower limbs, and spastic diplegia or paraplegia, intellectual disability, delayed or absent speech, and dysarthria. Seizures and mildly dysmorphic features have been described in some patients.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GPT2 | rs115352435 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Macrocephaly-intellectual disability-neurodevelopmental disorder-small thorax syndrome

A rare multiple congenital anomalies/dysmorphic syndrome with intellectual disability, characterized by macrocephaly, intellectual disability, seizures, dysmorphic facial features (including tall forehead, downslanting palpebral fissures, hypertelorism, depressed nasal bridge, and macrostomia), megalencephaly, and small thorax. Other reported features are umbilical hernia, muscular hypotonia, global developmental delay, autistic behavior, and cafe-au-lait spots, among others.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MTOR | rs786205165 | CC       |
| MTOR | rs863225264 | CC       |
| MTOR | rs878855328 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Microcephaly-corpus callosum hypoplasia-intellectual disability-facial dysmorphism syndrome

A rare genetic multiple congenital anomalies/dysmorphic syndrome characterized by variable degrees of developmental delay and intellectual disability with poor or absent speech, hypotonia, hypoplastic or absent corpus callosum, and facial dysmorphism (such as long face, frontal bossing, hypertelorism, downslanting palpebral fissures, and tented upper lip). Additional reported features include microcephaly, seizures, gait ataxia, scoliosis, and syndactyly of fingers, among others.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| PPP2R1A | rs786205227 | CC       |
| PPP2R1A | rs786205228 | CC       |
| PPP2R1A | rs863225094 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Microcephaly-lymphedema-chorioretinopathy syndrome

Microcephaly with or without chorioretinopathy, lymphedema or intellectual disability (MCLID) is a rare autosomal dominant condition characterized by variable expression of microcephaly, ocular disorders including chorioretinopathy, congenital lymphedema of the lower limbs, and mild to moderate intellectual disability.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KIF11 | rs797045650 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Microcephaly-capillary malformation syndrome

Microcephaly-capillary malformation syndrome is a rare, genetic vascular anomaly characterized by severe congenital microcephaly, poor somatic growth, diffuse multiple capillary malformations on the skin, intractable epilepsy, profound global developmental delay, spastic quadriparesis and hypoplastic distal phalanges.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1053 | rs143739249 | CC       |
| STAMBP  | rs397509390 | CC       |
| STAMBP  | rs797046015 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# 5q14.3 microdeletion syndrome

The newly described 5q14.3 microdeletion syndrome includes severe intellectual deficit with no speech, stereotypic movements and epilepsy.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MEF2C | rs587783747 | GG       |
| MEF2C | rs796052733 | GG       |
| MEF2C | rs797045053 | TT       |
| MEF2C | rs545185248 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Colobomatous microphthalmia-rhizomelic dysplasia syndrome

Colobomatous microphthalmia-rhizomelic dysplasia syndrome is a rare, genetic developmental defect during embryogenesis characterized by a range of developmental eye anomalies (including anophthalmia, microphthalmia, cataract) microcornea, corectopia, symmetric limb rhizomelia with short stature and contractures of large joints. Intellectual disability with autistic features, macrocephaly, dysmorphic features, urogenital anomalies (hypospadia, cryptorchidism), cutaneous syndactyly and precocious puberty may also be present.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| MAB21L2 | rs587777511 | GG       |
| MAB21L2 | rs587777512 | CC       |
| MAB21L2 | rs587777513 | GG       |
| MAB21L2 | rs587777514 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Action myoclonus-renal failure syndrome

A rare epilepsy syndrome characterized by progressive myoclonus epilepsy in association with primary glomerular disease. Patients present with neurologic symptoms (including tremor, action myoclonus, tonic-clonic seizures, later ataxia and dysarthria) that may precede, occur simultaneously or be followed by renal manifestations including proteinuria that progresses to nephrotic syndrome and end-stage renal disease. In some patients, sensorimotor peripheral neuropathy, sensorineural hearing loss and dilated cardiomyopathy are associated symptoms.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SCARB2 | rs200053119 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Early-onset myopathy-areflexia-respiratory distress-dysphagia syndrome

A rare congenital myopathy characterized by early onset of severe muscular weakness, respiratory distress due to diaphragmatic paralysis, dysphagia and areflexia, joint contractures, and scoliosis. Decreased fetal movements are seen in some individuals. Muscle biopsy may show a combination of dystrophic and myopathic features. The clinical course is variable, with some patients becoming ventilator-dependent and never achieving ambulation.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| MEGF10 | rs387907071 | CC       |
| MEGF10 | rs387907072 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Mohr-Tranebjaerg syndrome

An X-linked syndromic intellectual disability characterized by clinical manifestations commencing with early childhood onset hearing loss, followed by adolescent onset progressive dystonia or ataxia, visual impairment from early adulthood onwards and dementia from the 4th decade onwards.

### Your genetic map

| Gene   | SNP        | Genotype |
|--------|------------|----------|
| TIMM8A | rs80356560 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Mowat-Wilson syndrome**

A rare multiple congenital anomaly syndrome characterized by a distinct facial phenotype, intellectual disability, epilepsy, Hirschsprung disease (HSCR) and variable congenital malformations.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ZEB2 | rs137852981 | GG       |
| ZEB2 | rs398124274 | GG       |
| ZEB2 | rs398124282 | AA       |
| ZEB2 | rs587784566 | GG       |
| ZEB2 | rs587784571 | GG       |
| ZEB2 | rs587784570 | GG       |
| ZEB2 | rs727504224 | CC       |
| ZEB2 | rs786204815 | GG       |
| ZEB2 | rs797046121 | GG       |
| ZEB2 | rs797046122 | GG       |
| ZEB2 | rs886041338 | GG       |
| ZEB2 | rs587784563 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Muckle-Wells syndrome

Muckle-Wells syndrome (MWS) is an intermediate form of cryopyrin-associated periodic syndrome (CAPS; see this term) and is characterized by recurrent fever (with malaise and chills), recurrent urticaria-like skin rash, sensorineural deafness, general signs of inflammation (eye redness, headaches, arthralgia/myalgia) and potentially life-threatening secondary amyloidosis (AA type).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| NLRP3 | rs121908149 | CC       |
| NLRP3 | rs121908150 | CC       |
| NLRP3 | rs121908153 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Muir-Torre syndrome**

hereditary nonpolyposis colon cancer form of characterized by the development of cutaneous sebaceous neoplasia and at least one visceral malignancy, most frequently gastrointestinal carcinoma. The malignancies are usually multiple, occur at an early age, but tend to be of lowgrade and have a relatively low incidence of metastases. Sebaceous tumors are usually multiple, with sebaceous adenomas being the commonest. keratoacanthomas, usually located on the face or the trunk, have been reported as a feature. Cutaneous tumors may precede or follow the first presentation of internal malignancy, which usually involves the gastrointestinal tract, the breast or the genitourinary tract.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MLH1 | rs587778913 | CC       |
| MLH1 | rs63749900  | GG       |
| MLH1 | rs587778983 | AA       |
| MLH1 | rs267607745 | GG       |
| MLH1 | rs267607795 | GG       |
| MSH2 | rs63750047  | CC       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Mulibrey nanism**

A rare developmental defect during embryogenesis characterized by growth delay and multiorgan manifestations.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| TRIM37 | rs386834008 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Myhre syndrome

A rare multiple congenital anomalies syndrome characterized by short stature, distinctive facial dysmorphism, brachydactyly, stiff and thick skin, muscular pseudohypertrophy, restricted joint mobility, hearing loss, and variable intellectual disability. Cardiovascular and respiratory involvement are common.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SMAD4 | rs281875321 | TT       |
| SMAD4 | rs281875322 | AA       |
| SMAD4 | rs397518413 | CC       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Nager syndrome

A congenital malformation syndrome characterized by mandibulofacial dystosis (malar hypoplasia, micrognathia, external ear malformations) and variable preaxial limb defects.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SF3B4 | rs797045955 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Nance-Horan syndrome

Nance-Horan syndrome (NHS) is characterized by the association in male patients of congenital cataracts with microcornea, dental anomalies and facial dysmorphism.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| NHS  | rs132630322 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Netherton syndrome**

Netherton syndrome (NS) is a skin disorder characterized by congenital ichthyosiform erythroderma (CIE), a distinctive hair shaft defect (trichorrhexis invaginata; TI) and atopic manifestations.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SPINK5 | rs199757347 | CC       |
| SPINK5 | rs368134354 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Peripheral neuropathy-myopathy-hoarseness-hearing loss syndrome

Peripheral neuropathy-myopathy-hoarseness-hearing loss syndrome is a rare, syndromic genetic deafness characterized by a combination of muscle weakness, chronic neuropathic and myopathic features, hoarseness and sensorineural hearing loss. A wide range of disease onset and severity has been reported even within the same family.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MYH14 | rs113993956 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Noonan syndrome with multiple lentigines

A rare multisystem genetic disorder characterized by cutaneous lentigines, hypertrophic cardiomyopathy, short stature, pectus deformity, and dysmorphic facial features.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| PTPN11 | rs121918456 | AA       |
| PTPN11 | rs121918457 | CC       |
| PTPN11 | rs121918468 | GG       |
| PTPN11 | rs121918469 | GG       |
| PTPN11 | rs121918470 | AA       |
| PTPN11 | rs397507510 | GG       |
| PTPN11 | rs397507529 | AA       |
| PTPN11 | rs397507537 | AA       |
| PTPN11 | rs397507541 | CC       |
| PTPN11 | rs397507542 | GG       |
| PTPN11 | rs397507548 | AA       |
| PTPN11 | rs397507549 | CC       |
| RAF1   | rs80338799  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Omenn syndrome**

Omenn syndrome (OS) is an inflammatory condition characterized by erythroderma, desquamation, alopecia, chronic diarrhea, failure to thrive, lymphadenopathy, and hepatosplenomegaly, associated with severe combined immunodeficiency (SCID; see this term).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| IFTAP | rs36001797  | CC       |
| RAG1  | rs104894284 | GG       |
| RAG1  | rs104894291 | GG       |
| RAG1  | rs104894285 | CC       |
| RAG1  | rs104894286 | GG       |
| RAG1  | rs121918571 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Opitz GBBB syndrome**

A rare X-linked congenital midline malformation syndrome characterized by hypertelorism, laryngo-tracheo-esophageal defects and hypospadias.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MID1 | rs398123341 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Ear-patella-short stature syndrome

Ear-patella-short stature syndrome is an association of malformations including bilateral microtia (severe hypoplasia of ear pinnae), absent patellae, short stature, poor weight gain, and characteristic facial features such as high forehead, micrognathism with full lips and small mouth, and accentuated nasolabial folds (smile wrinkles linking the nostrils to the labial commissure).

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GMNN | rs864309488 | AA       |
| ORC1 | rs143141689 | CC       |
| ORC1 | rs387906828 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Osteopathia striata-cranial sclerosis syndrome

Osteopathia striata with cranial sclerosis (OS-CS) is a bone dysplasia characterized by longitudinal striations of the metaphyses of the long bones, sclerosis of the craniofacial bones, macrocephaly, cleft palate and hearing loss.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| AMER1 | rs137852217 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Osteoporosis-pseudoglioma syndrome

Osteoporosis pseudoglioma syndrome is a very rare autosomal recessive disorder characterized by congenital or infancy-onset blindness and severe juvenile-onset osteoporosis and spontaneous fractures.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| LRP5 | rs121908664 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Pancytopenia-developmental delay syndrome

Pancytopenia-developmental delay syndrome is a rare, genetic, hematologic disorder characterized by progressive trilineage bone marrow failure (with hypocellularity), developmental delay with learning disabilities, and microcephaly. Mild facial dysmorphism and hypotonia have also been reported.

# Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| ERCC6L2 | rs147948835 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Early-onset parkinsonism-intellectual disability syndrome

A rare X-linked syndromic intellectual disability characterized by infantile-onset non-progressive intellectual deficit (with psychomotor developmental delay, cognitive impairment and macrocephaly) and early-onset parkinsonism (before 45 years of age), in male patients.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| RAB39B | rs587777874 | GG       |
| RAB39B | rs864309527 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Pendred syndrome**

A syndromic genetic deafness clinically variable characterized by bilateral sensorineural hearing loss and euthyroid goiter.

# Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC26A4 | rs80338848  | TT       |
| SLC26A4 | rs80338849  | GG       |
| SLC26A4 | rs111033244 | AA       |
| SLC26A4 | rs121908363 | CC       |
| SLC26A4 | rs111033307 | TT       |
| SLC26A4 | rs111033348 | CC       |
| SLC26A4 | rs111033199 | GG       |
| SLC26A4 | rs111033254 | TT       |
| SLC26A4 | rs397516414 | GG       |
| SLC26A4 | rs111033305 | GG       |
| SLC26A4 | rs111033311 | GG       |
| SLC26A4 | rs397516416 | CC       |
| SLC26A4 | rs397516418 | TT       |
| SLC26A4 | rs111033316 | AA       |
| SLC26A4 | rs111033312 | GG       |
| SLC26A4 | rs111033257 | GG       |
| SLC26A4 | rs397516424 | AA       |
| SLC26A4 | rs111033318 | TT       |
| SLC26A4 | rs111033256 | TT       |
| SLC26A4 | rs397516432 | TT       |
| SLC26A4 | rs111033454 | GG       |
| SLC26A4 | rs111033245 | GG       |
| SLC26A4 | rs727503430 | GG       |
| SLC26A4 | rs727503431 | CC       |
| SLC26A4 | rs542620119 | GG       |
| SLC26A4 | rs146281367 | GG       |
| SLC26A4 | rs876657722 | GG       |
| SLC26A4 | rs147952620 | CC       |
| SLC26A4 | rs111033200 | CC       |
| SLC26A4 | rs111033302 | TT       |
| SLC26A4 | rs397516430 | CC       |
|         |             |          |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Perry syndrome**

A rare inherited neurodegenerative disorder characterized by rapidly progressive early-onset parkinsonism, central hypoventilation, weight loss, insomnia and depression.

### Your genetic map

| Gene  | SNP        | Genotype |
|-------|------------|----------|
| DCTN1 | rs72466487 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Peters plus syndrome

Peters plus syndrome is an autosomal recessively inherited syndromic developmental defect of the eye characterized by a variable phenotype including Peters anomaly and other anterior chamber eye anomalies, short limbs, limb abnormalities (i.e. rhizomelia and brachydactyly), characteristic facial features (upper lip with cupid bow, short palpebral fissures), cleft lip/palate, and mild to severe developmental delay/intellectual disability. Other associated abnormalities reported in some patients include congenital heart defects (i.e. hypoplastic left heart, absence of right pulmonary vein, bicuspid pulmonary valve), genitourinary anomalies (hydronephrosis, renal hypoplasia, renal and multicystic duplication, dysplastic glomerulocystic kidneys) and congenital hypothyroidism.

### Your genetic map

| Gene   | SNP        | Genotype |
|--------|------------|----------|
| B3GLCT | rs80338851 | GG       |

### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **Peutz-Jeghers syndrome**

A genetic intestinal polyposis syndrome characterized by development of characteristic hamartomatous polyps throughout the gastrointestinal (GI) tract, and by mucocutaneous pigmentation. This disorder carries a considerably increased risk of GI and extra-GI malignancies.

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=2869

# Your genetic map

| Gene  | SNP          | Genotype |
|-------|--------------|----------|
| STK11 | rs137853076  | AA       |
| STK11 | rs137854584  | GG       |
| STK11 | rs121913315  | GG       |
| STK11 | rs137853082  | GG       |
| STK11 | rs137853083  | CC       |
| STK11 | rs398123406  | GG       |
| STK11 | rs587782018  | GG       |
| STK11 | rs730881971  | GG       |
| STK11 | rs730881979  | GG       |
| STK11 | rs730881976  | CC       |
| STK11 | rs730881984  | GG       |
| STK11 | rs786201349  | CC       |
| STK11 | rs786202134  | CC       |
| STK11 | rs786201213  | CC       |
| STK11 | rs786201090  | CC       |
| STK11 | rs863224448  | GG       |
| STK11 | rs876658584  | AA       |
| STK11 | rs886037926  | AA       |
| STK11 | rs886037859  | AA       |
| STK11 | rs886039554  | GG       |
| STK11 | rs1057517830 | GG       |
| STK11 | rs121913324  | CC       |
| STK11 | rs1057520039 | CC       |
| STK11 | rs775595174  | GG       |
| STK11 | rs1131690950 | GG       |
| STK11 | rs1131690925 | CC       |
| STK11 | rs1131690951 | AA       |
| STK11 | rs730881973  | CC       |
| STK11 | rs1131690923 | CC       |
| STK11 | rs1131690940 | CC       |
| STK11 | rs1131690921 | GG       |
|       |              |          |



# Pfeiffer syndrome

An acrocephalosyndactyly associated with craniosynostosis, midfacial hypoplasia, hand and foot malformation with a wide range of clinical expression and severity. Most of the affected patients show various other associated manifestations.

# Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FGFR2 | rs121918488 | AA       |
| FGFR2 | rs121918495 | TT       |
| FGFR2 | rs121918499 | CC       |
| FGFR2 | rs121918505 | AA       |
| FGFR2 | rs121918506 | TT       |
| FGFR2 | rs121918510 | TT       |
| FGFR2 | rs776587763 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Pierson syndrome

A rare primary glomerular disease characterized by the association of congenital nephrotic syndrome, early onset renal failure and ocular anomalies with microcoria and severe neurodevelopment deficits.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| LAMB2 | rs121912488 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Pitt-Hopkins syndrome

A rare multiple congenital anomalies syndrome characterized by the association of intellectual deficit, characteristic facial morphology and problems of abnormal and irregular breathing.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TCF4 | rs121909120 | GG       |
| TCF4 | rs121909121 | СС       |
| TCF4 | rs121909122 | GG       |
| TCF4 | rs121909123 | CC       |
| TCF4 | rs398123560 | CC       |
| TCF4 | rs587784462 | CC       |
| TCF4 | rs587784460 | CC       |
| TCF4 | rs587784459 | CC       |
| TCF4 | rs587784458 | CC       |
| TCF4 | rs587784469 | CC       |
| TCF4 | rs587784466 | CC       |
| TCF4 | rs587784464 | GG       |
| TCF4 | rs727504175 | GG       |
| TCF4 | rs796053418 | GG       |
| TCF4 | rs797045072 | CC       |
| TCF4 | rs797046034 | TT       |
| TCF4 | rs797046033 | GG       |
| TCF4 | rs863224934 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Short rib-polydactyly syndrome, Majewski type

A rare ciliopathy with major skeletal involvement characterized by a hypoplastic thorax with short ribs and protuberant abdomen, micromelia with particularly short tibiae with ovoid configuration, pre- and postaxial polydactyly, brachydactyly, hypoplasia or aplasia of nails, and dysmorphic craniofacial features (such as prominent forehead, low-set and malformed ears, short and flat nose, lobulated tongue, micrognathia, and cleft lip/palate). Additional reported manifestations include urogenital, gastrointestinal, cardiovascular, and cerebral malformations, among others. The condition is fatal in the neonatal period.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| EVC2 | rs769864196 | GG       |
| NEK1 | rs794727032 | CC       |
| NEK1 | rs794727285 | CC       |
| NEK1 | rs199947197 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Serrated polyposis syndrome

A rare, genetic intestinal disease characterized by the presence of multiple (usually large) hyperplastic/serrated colorectal polyps, usually with a pancolonic distribution. Histology reveals hyperplastic polyps, sessile serrated adenomas (most common), traditional serrated adenomas or mixed polyps. It is associated with an increased personal and familial (first-degree relatives) risk of colorectal cancer.

# Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| RNF43 | rs786205215 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Autosomal recessive multiple pterygium syndrome

A rare genetic multiple congenital anomalies/dysmorphic syndrome characterized by congenital pterygia (webbing) mainly affecting the neck and large joints, arthrogryposis multiplex, short stature, and craniofacial dysmorphism (including ptosis, downslanting palpebral fissures, higharched palate, and retrognathia). Additional manifestations are decreased movements, facial weakness, respiratory distress, vertebral anomalies, scoliosis, anomalies of the fingers, and cryptorchidism, among others. The disease is a non-lethal variant of multiple pterygium syndrome.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CHRNG | rs121912672 | СС       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Autosomal dominant popliteal pterygium syndrome

A rare genetic, multiple congenital anomalies syndrome characterized by cleft lip, with or without cleft palate, pits in the lower lip, contractures of the lower extremities, abnormal external genitalia, syndactyly of fingers and/or toes, and a pyramidal skin fold over the hallux nail.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| IRF6 | rs121434226 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Familial short QT syndrome

A rare, genetic cardiac rhythm disease characterized by a short QTc interval on the surface electrocardiogram (ECG) with a high risk of syncope or sudden death due to malignant ventricular arrhythmia.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KCNH2 | rs794728382 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Palmoplantar keratoderma-deafness syndrome

Palmoplantar keratoderma-deafness syndrome keratinization disorder characterized by focal or diffuse palmoplantar keratoderma. A patchy distribution is observed with accentuation on the thenars, hypothenars and the arches of the feet. The disease becomes apparent in infancy and is associated with sensorineural hearing loss that shows a variable age of onset. Due to genetic and clinical similarities, it has been proposed that palmoplantar keratoderma-deafness syndrome, knuckle leukonychia-sensorineural deafness-palmoplantar hyperkeratosis syndrome and keratoderma hereditarium mutilans may represent variants of one broad disorder of syndromic deafness with heterogeneous phenotype. The disease is transmitted in an autosomal dominant manner with incomplete penetrance.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| GJB2 | rs28931593 | CC       |

### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Resistance to thyrotropin-releasing hormone syndrome

Resistance to thyrotropin-releasing hormone (TRH) syndrome is a type of central congenital hypothyroidism characterized by low levels of thyroid hormones due to insufficient release of thyroid-stimulating hormone (TSH) caused by pituitary resistance to TRH. It may or may not be observed from birth.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TRHR | rs121917847 | CC       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Insulin-resistance syndrome type A

Type A insulin-resistance syndrome belongs to the group of extreme insulin-resistance syndromes (which includes leprechaunism, the lipodystrophies, Rabson-Mendenhall syndrome and type B insulin resistance syndrome; see these terms) and is characterized by the triad of hyperinsulinemia, acanthosis nigricans (skin lesions associated with insulin resistance), and signs of hyperandrogenism in females without lipodystrophy and who are not overweight.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| INSR | rs121913148 | CC       |
| INSR | rs121913156 | CC       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Retinitis pigmentosa-juvenile cataract-short stature-intellectual disability syndrome

A rare, genetic, syndromic rod-cone dystrophy disorder characterized by psychomotor developmental delay from early childhood, intellectual disability, short stature, mild facial dysmorphism (e.g. upslanted palpebral fissures, hypoplastic alae nasi, malar hypoplasia, attached earlobes), excessive dental spacing and malocclusion, juvenile cataract and ophthalmologic findings of atypical retinitis pigmentosa (i.e. salt-and-pepper retinopathy, attenuated retinal arterioles, generalized rod-cone dysfunction, mottled macula, peripapillary sparing of retinal pigment epithelium).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| RDH11 | rs606231423 | GG       |
| RDH11 | rs606231424 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Growth and developmental delay-hypotonia-vision impairment-lactic acidosis syndrome

Growth and developmental delay-hypotonia-vision impairment-lactic acidosis syndrome is a rare, genetic, mitochondrial phosphorylation oxidative disorder characterized growth retardation, by intrauterine microcephaly, hypotonia, vision impairment, speech and language delay and lactic acidosis with reduced respiratory chain activity (typically complex I). Additional features may include macrocytic anemia, tremor, muscular atrophy, dysmetria and mild intellectual disability.

# Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SFXN4 | rs756173225 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Global developmental delay-neuro-ophthalmological abnormalities-seizures-intellectual disability syndrome

A rare genetic neurological disorder characterized by infantile to childhood onset of global developmental delay, hypotonia, seizures, growth delay, and intellectual disability. Additional variable features include strabismus, cortical visual impairment, nystagmus, movement disorder (such as dystonia, ataxia, or chorea), or mild dysmorphic features, among others.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GNB1 | rs752746786 | AA       |
| GNB1 | rs869312825 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Rett syndrome**

A rare severe, X-linked, neurodevelopmental disorder characterized by rapid developmental regression in infancy, partial or complete loss of purposeful hand movements, loss of speech, gait abnormalities, and stereotypic hand movements, commonly associated with deceleration of head growth, severe intellectual disability, seizures, and breathing abnormalities. The disorder has a progressive clinical course and may associate various comorbidities including gastrointestinal diseases, scoliosis, and behavioral disorders.

### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=778

# Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MECP2 | rs28934904  | GG       |
| MECP2 | rs28934906  | GG       |
| MECP2 | rs28934907  | GG       |
| MECP2 | rs61750240  | GG       |
| MECP2 | rs61751362  | GG       |
| MECP2 | rs28935468  | GG       |
| MECP2 | rs61748421  | GG       |
| MECP2 | rs61749721  | GG       |
| MECP2 | rs28935168  | GG       |
| MECP2 | rs61749715  | GG       |
| MECP2 | rs179363901 | GG       |
| MECP2 | rs193922679 | TT       |
| MECP2 | rs61748408  | GG       |
| MECP2 | rs61749724  | GG       |
| MECP2 | rs61749747  | GG       |
| MECP2 | rs61752372  | GG       |
| MECP2 | rs61753965  | GG       |
| MECP2 | rs61753979  | GG       |
| MECP2 | rs61754432  | GG       |
| MECP2 | rs61754437  | GG       |
| MECP2 | rs61754452  | GG       |
| MECP2 | rs61754455  | CC       |
| MECP2 | rs61754457  | CC       |
| MECP2 | rs267608455 | CC       |
| MECP2 | rs61755763  | CC       |
| MECP2 | rs61748389  | CC       |
| MECP2 | rs61748390  | GG       |
| MECP2 | rs61748391  | TT       |
| MECP2 | rs61748395  | TT       |
| MECP2 | rs61748404  | GG       |
| MECP2 | rs61748407  | TT       |
|       |             |          |



# **Autosomal dominant Robinow syndrome**

The more common type of Robinow syndrome (RS) characterized by mild to moderate limb shortening and abnormalities of the head, face and external genitalia.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DVL3 | rs869025216 | AA       |
| DVL3 | rs869025217 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Rothmund-Thomson syndrome**

Rothmund-Thomson syndrome (RTS) is a genodermatosis presenting with a characteristic facial rash (poikiloderma) associated with short stature due to pre- and postnatal growth delay, sparse scalp hair, sparse or absent eyelashes and/or eyebrows, juvenile cataracts, skeletal abnormalities, radial ray defects, premature aging and a predisposition to certain cancers.

# Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| RECQL4 | rs137853229 | GG       |
| RECQL4 | rs117642173 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Rotor syndrome**

A benign, inherited liver disorder characterized by chronic, predominantly conjugated, nonhemolytic hyperbilirubinemia with normal liver histology.

# Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLCO1B1 | rs183501729 | CC       |
| SLCO1B3 | rs201833947 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Rubinstein-Taybi syndrome

A rare, genetic malformation syndrome characterized by congenital anomalies (microcephaly, specific facial characteristics, and broad thumbs and halluces), short stature, intellectual disability and behavioral characteristics.

# Multivariate analysis

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:

http://www.orpha.net/consor/cgi-bin/OC\_Exp.php?lng=en&Expert=783

# Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CREBBP | rs267606752 | CC       |
| CREBBP | rs398124145 | CC       |
| CREBBP | rs587783510 | GG       |
| CREBBP | rs587783505 | GG       |
| CREBBP | rs587783503 | AA       |
| CREBBP | rs587783497 | TT       |
| CREBBP | rs587783496 | TT       |
| CREBBP | rs147688139 | AA       |
| CREBBP | rs587783494 | TT       |
| CREBBP | rs587783493 | GG       |
| CREBBP | rs587783492 | AA       |
| CREBBP | rs587783491 | CC       |
| CREBBP | rs587783490 | GG       |
| CREBBP | rs587783489 | GG       |
| CREBBP | rs587783488 | CC       |
| CREBBP | rs587783486 | TT       |
| CREBBP | rs200782888 | CC       |
| CREBBP | rs587783483 | CC       |
| CREBBP | rs587783482 | CC       |
| CREBBP | rs587783480 | CC       |
| CREBBP | rs587783479 | GG       |
| CREBBP | rs587783475 | GG       |
| CREBBP | rs587783471 | GG       |
| CREBBP | rs587783464 | GG       |
| CREBBP | rs587783463 | CC       |
| CREBBP | rs587783461 | GG       |
| CREBBP | rs587783460 | GG       |
| CREBBP | rs587783516 | GG       |
| CREBBP | rs587783509 | GG       |
| CREBBP | rs587783478 | GG       |
| CREBBP | rs587783476 | GG       |
|        |             |          |



# **Schinzel-Giedion syndrome**

Schinzel-Giedion syndrome (SGS) is an ectodermal dysplasia syndrome chiefly characterized by a distinctive facial dysmorphism, hydronephrosis, severe developmental delay, typical skeletal malformations, and genital and cardiac anomalies.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SETBP1 | rs267607042 | GG       |
| SETBP1 | rs267607040 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Scott syndrome**

Scott syndrome is an extremely rare congenital hemorrhagic disorder characterized by hemorrhagic episodes due to impaired platelet coagulant activity.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1053 | rs374664255 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Senior-Boichis syndrome

A rare ciliopathy characterized by the association of nephronophthisis and liver fibrosis. Renal manifestations include chronic renal failure, polyuria, polydipsia, anemia, as well as increased echogenicity on renal ultrasound and interstitial fibrosis and tubular dilation on biopsy. Hepatic involvement manifests as hepatosplenomegaly with extensive fibrosis, destruction of the bile ducts, and cholestasis. Mild psychomotor retardation and ocular symptoms, such as strabismus, nystagmus, retinal degeneration, and anisocoria, have been reported in some patients.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| DCDC2 | rs760040426 | TT       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Sheldon-Hall syndrome

Sheldon-Hall syndrome (SHS) is a rare multiple congenital contracture syndrome characterized by contractures of the distal joints of the limbs, triangular face, downslanting palpebral fissures, small mouth, and high arched palate.

# Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| NALCN | rs786203988 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Shprintzen-Goldberg syndrome**

Shprintzen-Goldberg syndrome (SGS) is a very rare genetic disorder characterized by craniosynostosis, craniofacial and skeletal abnormalities, marfanoid habitus, cardiac anomalies, neurological abnormalities, and intellectual disability.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SKI  | rs387907303 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **Shwachman-Diamond syndrome**

Shwachman-Diamond syndrome (SDS) is a rare multisystemic syndrome characterized by chronic and usually mild neutropenia, pancreatic exocrine insufficiency associated with steatorrhea and growth failure, skeletal dysplasia with short stature, and an increased risk of bone marrow aplasia or leukemic transformation.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SBDS | rs113993992 | CC       |
| TYW1 | rs373730800 | TT       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Simpson-Golabi-Behmel syndrome

A rare X-linked multiple congenital anomalies syndrome characterized by pre- and postnatal overgrowth, distinctive craniofacial features, variable congenital malformations, organomegaly and an increased tumor risk.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GPC3 | rs122453121 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Sjögren Larsson syndrome

A rare neurocutaneous disorder caused by an inborn error of lipid metabolism and characterized by congenital ichthyosis, intellectual deficit, and spasticity.

### Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| ALDH3A2 | rs72547571 | CC       |
| ALDH3A2 | rs72547569 | GG       |
| ALDH3A2 | rs72547575 | AA       |
| ALDH3A2 | rs72547562 | CC       |
| ALDH3A2 | rs72547561 | CC       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### **Smith-Lemli-Opitz syndrome**

Smith-Lemli-Opitz syndrome (SLOS) is characterized by multiple congenital anomalies, intellectual deficit, and behavioral problems.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| DHCR7 | rs28938174  | TT       |
| DHCR7 | rs121909764 | CC       |
| DHCR7 | rs80338853  | GG       |
| DHCR7 | rs80338860  | GG       |
| DHCR7 | rs61757582  | GG       |
| DHCR7 | rs121909765 | GG       |
| DHCR7 | rs121909767 | CC       |
| DHCR7 | rs80338864  | CC       |
| DHCR7 | rs104886033 | TT       |
| DHCR7 | rs121909768 | CC       |
| DHCR7 | rs80338862  | CC       |
| DHCR7 | rs11555217  | CC       |
| DHCR7 | rs80338856  | GG       |
| DHCR7 | rs80338857  | CC       |
| DHCR7 | rs80338858  | GG       |
| DHCR7 | rs104886035 | GG       |
| DHCR7 | rs398123607 | CC       |
| DHCR7 | rs143312232 | GG       |
| DHCR7 | rs779709646 | CC       |
| DHCR7 | rs104886039 | GG       |
| DHCR7 | rs751604696 | CC       |
| DHCR7 | rs753960624 | AA       |
| DHCR7 | rs121912195 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Steel syndrome

A rare genetic bone disease characterized by short stature, bilateral congenital hip dislocation, radial head dislocation, carpal coalition, scoliosis, pes cavus, and atlantoaxial subluxation. Dysmorphic facial features include broad forehead, broad nasal bridge, hypertelorism, and mild midface hypoplasia. Association with bilateral sensorineural hearing loss has also been described.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| COL27A1 | rs140950220 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Stickler syndrome

A rare group of genetic connective tissue disorders characterized by ophthalmic, auditory, orofacial and articular manifestations. The two main clinical forms are clinically distinguished by the vitreous phenotype; stickler type 1 by a vestigial vitreous gel in the immediate retrolental space, bordered by a distinct folded membrane, and Stickler type 2 by sparse and irregularly thickened bundles of 64257;bers throughout the vitreous cavity.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| COL2A1  | rs121912884 | GG       |
| COL2A1  | rs121912893 | GG       |
| COL2A1  | rs748459670 | GG       |
| LOC1053 | rs121912866 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Short stature-brachydactyly-obesity-global developmental delay syndrome

A rare genetic, multiple congenital anomalies syndrome characterized by short stature, hand brachydactyly with hypoplastic distal phalanges, global development delay, intellectual disability, and more variably seizures, obesity, and craniofacial dysmorphism that includes microcephaly, high forehead, flat face, hypertelorism, deep set eyes, flat nasal bridge, averted nostrils, long philtrum, thin lip vermilion, and short neck.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| PRMT7 | rs201824659 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Short stature-pituitary and cerebellar defects-small sella turcica syndrome

Short stature-pituitary and cerebellar defects-small sella turcica syndrome is characterised by short stature, anterior pituitary hormone deficiency, small sella turcica, and a hypoplastic anterior hypophysis associated with pointed cerebellar tonsils. It has been described in three generations of a large French kindred. Ectopia of the posterior hypophysis was observed in some patients. The syndrome is transmitted as a dominantly inherited trait and is caused by a germline mutation within the LIM-homeobox transcription factor LHX4 gene (1q25).

### Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| LHX4 AS1 | rs786204780 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Tatton-Brown-Rahman syndrome**

A rare multiple congenital anomalies syndrome characterized by greater hight, mild to moderate intellectual disability and distinctive facial appereance like round face, heavy, horizontal eyebrows and narrow palpebral fissures.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| DNMT3A | rs779626155 | GG       |
| DNMT3A | rs778270132 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Spastic tetraplegia-thin corpus callosum-progressive postnatal microcephaly syndrome

A rare neurometabolic disorder due to serine deficiency characterized by neonatal to infantile onset of global developmental delay, postnatal microcephaly and intellectual disability, which may be associated with slowly progressive spastic tetraplegia mainly affecting the lower extremities, seizures, and brain MRI findings including thin corpus callosum, delayed myelination and cerebral atrophy. Additional symptoms include brisk deep tendon reflexes, extensor plantar responses, behavioral abnormalities (such as irritability, hyperactivity, sleep disorder), abnormal hand movements and stereotypy.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1053 | rs201278558 | GG       |
| LOC1053 | rs761533681 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Toriello-Lacassie-Droste syndrome**

Oculo-ectodermal syndrome (OES) is characterized by the association of epibulbar dermoids and aplasia cutis congenital.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| CLUAP1 | rs751218423 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Arterial tortuosity syndrome**

A rare autosomal recessive connective tissue disorder characterized by tortuosity and elongation of the large and medium-sized arteries and a propensity towards aneurysm formation, vascular dissection, and stenosis of the pulmonary arteries.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC2A10 | rs121908172 | GG       |
| SLC2A10 | rs756457861 | CC       |
| SLC2A10 | rs761721442 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Neurodevelopmental disorder-craniofacial dysmorphism-cardiac defect-skeletal anomalies syndrome

A rare genetic multiple congenital anomalies/dysmorphic syndrome characterized by global developmental delay, intellectual disability, hypotonia, craniofacial dysmorphism (such as ridged metopic sutures, long palpebral fissures, broad nasal bridge, hypoplastic alae nasi, low-set, prominent ears, prominent midline tongue groove, and downturned mouth), congenital heart defects, and variable skeletal abnormalities including hip dysplasia, vertebral anomalies, and scoliosis. Additional reported manifestations include high pain tolerance and genitourinary anomalies. Brain imaging may show a thin corpus callosum or white matter abnormalities.

Your genetic map

Gene SNP Genotype
HNRNPK rs863223403 CC

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Noonan syndrome-like disorder with loose anagen hair

A Noonan-related syndrome, characterized by facial anomalies suggestive of Noonan syndrome, loose anagen hair, frequent congenital heart defects, distinctive skin features (darkly pigmented skin, keratosis pilaris, eczema or ichtyosis), and short stature that is often associated with a growth hormone deficiency. Psychomotor delay with attention deficit/hyperactivity disorder (ADHD) is frequently observed.

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| SHOC2 | rs267607048 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Renal tubulopathy-encephalopathy-liver failure syndrome

Renal tubulopathy - encephalopathy - liver failure describes a spectrum of phenotypes with manifestations similar but milder than those seen in GRACILE syndrome and that can be associated with encephalopathy and psychiatric disorders.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| BCS1L  | rs121908575 | CC       |
| ZNF142 | rs121908576 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Vici syndrome

Vici syndrome is a very rare and severe congenital multisystem disorder characterized by the principal features of agenesis of the corpus callosum, cataracts, oculocutaneous hypopigmentation, cardiomyopathy and combined immunodeficiency.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| EPG5 | rs587776942 | GG       |
| EPG5 | rs201757275 | TT       |
| EPG5 | rs183478189 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Wiedemann-Rautenstrauch syndrome

A rare multiple congenital anomalies/dysmorphic syndrome characterized by marked prenatal and postnatal growth retardation, decreased subcutaneous fat, hypotrichosis, relative macrocephaly and an unusual face. Mild to moderate intellectual disability is common.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| POLR3A | rs148932047 | GG       |
| POLR3A | rs141659018 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Wiedemann-Steiner syndrome

A rare, genetic multiple congenital anomalies/dysmorphic syndrome characterized by short stature, hypertrichosis (most commonly of the back or elbow regions), facial dysmorphism, behavioral problems, developmental delay and, most commonly, mild to moderate intellectual disability.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| KMT2A | rs587783678 | CC       |
| KMT2A | rs587783679 | GG       |
| KMT2A | rs587783680 | CC       |
| KMT2A | rs797045051 | CC       |
| KMT2A | rs863224889 | GG       |
| KMT2A | rs886041856 | CC       |
| TTC36 | rs782477344 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Wiskott-Aldrich syndrome

A primary immunodeficiency disease characterized by microthrombocytopenia, eczema, infections and an increased risk for autoimmune manifestations and malignancies.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| WAS  | rs132630268 | GG       |
| WAS  | rs193922414 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Wolcott-Rallison syndrome**

Wolcott-Rallison syndrome (WRS) is a very rare genetic disease, characterized by permanent neonatal diabetes mellitus (PNDM) with multiple epiphyseal dysplasia and other clinical manifestations, including recurrent episodes of acute liver failure.

## Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| EIF2AK3 | rs864621972 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Wolfram syndrome

A rare, genetic, endocrine disorder characterized by type I diabetes mellitus (DM), diabetes insipidus (DI), sensorineural deafness (D), bilateral optical atrophy (OA) and neurological signs.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| WFS1 | rs28937892  | CC       |
| WFS1 | rs387906930 | CC       |
| WFS1 | rs71530923  | CC       |
| WFS1 | rs797045075 | TT       |
| WFS1 | rs777580652 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Carney complex-trismus-pseudocamptodactyly syndrome

Carney complex-trismus-pseudocamptodactyly syndrome is a rare genetic heart-hand syndrome characterized by typical manifestations of the Carney complex (spotty pigmentation of the skin, familial cardiac and cutaneous myxomas and endocrinopathy) associated with trismus and distal arthrogryposis (presenting as involuntary contraction of distal and proximal interphalangeal joints of hands evident only on dorsiflexion of wrist and similar lower-limb contractures producing foot deformities).

## Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| MYHAS | rs121434590 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



### Isolated cloverleaf skull syndrome

A form of craniosynostosis involving multiple sutures (coronal, lambdoidal, sagittal and metopic) characterized by a trilobular skull of varying severity (frontal towering and bossing, temporal bulging and a flat posterior skull), dysmorphic features (downslanting palpebral fissures, midface hypoplasia, and extreme proptosis) and that is complicated by hydrocephalus, cerebral venous hypertension, developmental delay/intellectual disability and hind brain herniation.

## Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ERF  | rs587777008 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Occipital horn syndrome

A rare congenital disorder of copper metabolism that is principally characterized by bony exostoses (including the pathognomonic occipital horns), and connective tissue manifestations with cutis laxa and bladder diverticula. Central nervous system involvement is variable.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ATP7A | rs151340631 | CC       |
| ATP7A | rs151340632 | AA       |
| ATP7A | rs797045340 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Lateral meningocele syndrome

A rare genetic neurological disorder characterized by multiple lateral meningoceles, distinctive facial dysmorphism (including hypertelorism, downslanting palpebral fissures, posteriorly rotated ears, micrognathia, and high, narrow palate, among others), and skeletal abnormalities (e. g. vertebral anomalies, wormian bones, short stature, and scoliosis). Multiple additional features may present, such as conductive hearing impairment, hypotonia, and connective tissue and urogenital abnormalities. Cognition is usually normal.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| NOTCH3 | rs869312910 | GG       |
| NOTCH3 | rs869312911 | GG       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Linear nevus sebaceus syndrome

A rare nevus syndrome characterized by the association of an nevus sebaceous with a broad spectrum of abnormalities that affect many organ systems, most commonly the eye, skeletal and central nervous system.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| LRRC56 | rs121913233 | TT       |
| LRRC56 | rs104894228 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **EEC syndrome**

EEC syndrome is a genetic developmental disorder characterized by ectrodactyly, ectodermal dysplasia, and orofacial clefts (cleft lip/palate).

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| TP63 | rs121908835 | CC       |
| TP63 | rs121908841 | GG       |
| TP63 | rs121908844 | AA       |
| TP63 | rs121908849 | GG       |
| TP63 | rs864621968 | AA       |
| TP63 | rs797044484 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Neurogenic scapuloperoneal syndrome, Kaeser type

A rare, genetic, neuromuscular disease characterized by adult-onset muscle weakness and atrophy in a scapuloperoneal distribution, mild involvement of the facial muscles, dysphagia, and gynecomastia. Elevated serum CK levels and mixed myopathic and neurogenic abnormalities are associated clinical findings.

## Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| DES  | rs57965306 | GG       |

### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Enamel-renal syndrome**

extremely genetic malformation syndrome rare, characterized by hypoplastic amelogenesis imperfecta nephrocalcinosis (hypoplastic dental enamel) and (precipitation of calcium salts in renal tissue). Oral manifestations include yellow and misshaped teeth, delayed tooth eruption, and intrapulpal Nephrocalcinosis is often asymptomatic but can progress during late childhood or early adulthood to impaired renal function, recurrent urinary infections, renal tubular acidosis, and rarely to end-stage renal failure.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| FAM20A | rs144411158 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Familial hyperphosphatemic tumoral calcinosis/Hyperphosphatemic hyperostosis syndrome

Familial tumoral calcinosis (FTC) refers to a rare autosomal recessive disorder characterized by the occurrence of cutaneous and subcutaneous calcified masses, usually adjacent to large joints, such as hips, shoulders and elbows. FTC can occur in the setting of hyperphosphatemia or normophosphatemia, depending on the type of gene mutation involved.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| GALNT3 | rs137853086 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# H syndrome

A rare cutaneous disease and a systemic inherited histiocytosis mainly characterized by hyperpigmentation, hypertrichosis, hepatosplenomegaly, heart anomalies, hearing loss, hypogonadism, low height, and occasionally, hyperglycemia/diabetes mellitus. Due to overlapping clinical features, it is now considered to include pigmented hypertrichosis with insulin dependent diabetes mellitus syndrome (PHID), Faisalabad histiocytosis (FHC) and familial sinus histiocytosis with massive lymphadenopathy (FSHML). Some cases of dysosteosclerosis may also represent the syndrome.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| SLC29A3 | rs121912583 | GG       |
| SLC29A3 | rs267607056 | GG       |
| SLC29A3 | rs121912584 | GG       |
| SLC29A3 | rs387907066 | GG       |
| SLC29A3 | rs387907067 | CC       |
| SLC29A3 | rs587780462 | CC       |
| SLC29A3 | rs587780463 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Atypical hemolytic uremic syndrome

A rare, genetic thrombotic microangiopathy due to dysregulation of the alternative complement pathway and characterized by the triad of hemolytic anemia, thrombocytopenia, and acute renal dysfunction.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DGKE | rs138924661 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **Hydrolethalus**

Hydrolethalus (HLS) is a severe fetal malformation syndrome characterized by craniofacial dysmorphic features, central nervous system, cardiac, respiratory tract and limb abnormalities.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| HYLS1 | rs104894232 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **KID** syndrome

A rare congenital ectodermal disorder characterized by vascularizing keratitis, hyperkeratotic skin lesions and hearing loss.

### Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| GJB2 | rs28931594 | CC       |
| GJB2 | rs72561723 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Lacrimoauriculodentodigital syndrome

A rare, genetic, multiple congenital anomalies/dysmorphic syndrome characterized by hypoplasia, aplasia or atresia of the lacrimal system, anomalies of the ears with sensorineural or mixed hearing loss, hypoplasia, aplasia or atresia of the salivary glands, dental anomalies, and digital malformations. Patients present obstruction of the nasal lacrimal ducts that can lead to epiphora, and chronic conjunctivitis due to alacrimia. Aplasia or hypoplasia of the salivary glands lead to dry mouth and early onset of severe dental caries. Dental features include late tooth eruption, small and peg-shaped lateral maxillary incisors and mild enamel dysplasia. The digital features are variable and include fifth finger clinodactyly, duplication of the distal phalanx of the thumb, triphalangeal thumb, and/or syndactyly. Unilateral radial aplasia and radial-ulnar synostosis have also been reported in association.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FGFR2 | rs121918509 | CC       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### **MASA syndrome**

A X-linked, clinical subtype of L1 syndrome, characterized by mild to moderate intellectual disability, delayed development of speech, hypotonia progressing to spasticity or spastic paraplegia, adducted thumbs, and mild to moderate distension of the cerebral ventricles.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| FA2H  | rs765086319 | GG       |
| L1CAM | rs137852524 | CC       |
| SPG7  | rs562890289 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# **MEGDEL** syndrome

MEGDEL syndrome is a rare, genetic, neurometabolic disorder characterized by neonatal hypoglycemia, features of sepsis that are not linked to infection, development of feeding problems, failure to thrive, transient liver dysfunction, and truncal hypotonia followed by dystonia and spasticity which results in psychomotor development arrest and/or regression. Progressive sensorineural deafness, intellectual disability and absent speech are also associated. Laboratory tests demonstrate 3-methylglutaconic aciduria and temporary elevated serum lactate and transaminases.

## Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| SERAC1 | rs387907236 | GG       |
| SERAC1 | rs199632531 | GG       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Micro syndrome

Micro syndrome is an autosomal recessive disorder caracterised by ocular and neurodevelopmental defects and by microgenitalia. It presents with severe intellectual disability, microcephaly, congenital cataract, microcornea, microphthalmia, agenesis/hypoplasia of the corpus callosum, and hypogenitalism.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| RAB3GAP | rs532964185 | CC       |
| ZRANB3  | rs797045905 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

### More information:



# Multisystemic smooth muscle dysfunction syndrome

Multisystemic smooth muscle dysfunction syndrome is a rare, genetic, vascular disease characterized by congenital dysfunction of smooth muscle throughout the body, manifesting with cerebrovascular disease, aortic anomalies, intestinal hypoperistalsis, hypotonic bladder, and pulmonary hypertension. Congenital mid-dilated pupils non-reactive to light associated with a large, persistent patent ductus arteriosus are characteristic hallmarks of the disease.

# Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ACTA2 | rs387906592 | СС       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Nephrogenic syndrome of inappropriate antidiuresis

Nephrogenic syndrome of inappropriate antidiuresis (NSIAD) is a rare genetic disorder of water balance, closely resembling the far more frequent syndrome of inappropriate antidiuretic secretion (SIAD), and characterized by euvolemic hypotonic hyponatremia due to impaired free water excretion and undetectable or low plasma arginine vasopressin (AVP) levels.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| AVPR2 | rs104894761 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Congenital nephrotic syndrome, Finnish type

A rare congenital nephrotic syndrome characterized by massive protein loss and marked edema manifesting in utero or during the first 3 months of life.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| KIRREL2 | rs386833955 | TT       |
| NPHS1   | rs137853042 | GG       |
| NPHS1   | rs267606919 | GG       |
| NPHS1   | rs386833865 | GG       |
| NPHS1   | rs386833871 | GG       |
| NPHS1   | rs386833874 | GG       |
| NPHS1   | rs386833889 | CC       |
| NPHS1   | rs386833895 | CC       |
| NPHS1   | rs386833909 | GG       |
| NPHS1   | rs386833915 | GG       |
| NPHS1   | rs386833920 | GG       |
| NPHS1   | rs749341977 | GG       |
| NPHS1   | rs140018064 | GG       |
| NPHS1   | rs142883811 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# PRUNE1-related neurological syndrome

A rare genetic syndromic intellectual disability characterized by infantile onset of global developmental delay and profound intellectual disability in association with a heterogeneous spectrum of manifestations, such as features of lower motor neuron disease, hypotonia, spasticity, contractures, seizures, respiratory insufficiency, and optic atrophy, among others. Dysmorphic craniofacial features include microcephaly, tall forehead, bitemporal narrowing, flat nasal bridge, low-set ears, and high-arched palate. Brain imaging may show cerebral and cerebellar atrophy, delayed myelination, and thin corpus callosum.

# Your genetic map

| Gene   | SNP          | Genotype |
|--------|--------------|----------|
| PRUNE1 | rs1057521927 | GG       |
| PRUNE1 | rs767769359  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Oculocerebrofacial syndrome, Kaufman type

A rare, genetic, syndromic intellectual disability characterized by severe intellectual disability, distinctive craniofacial features and variable multiple congenital anomalies including ocular, brain, urogenital and skeletal abnormalities.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| UBE3B | rs539407162 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Oculocerebrorenal syndrome of Lowe

A rare multisystem disorder characterized by congenital cataracts, glaucoma, intellectual disabilities, seizures, postnatal growth retardation and renal tubular dysfunction with chronic renal failure.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| OCRL | rs387906484 | CC       |
| OCRL | rs137853260 | GG       |
| OCRL | rs137853831 | CC       |
| OCRL | rs137853858 | CC       |
| OCRL | rs398123287 | CC       |
| OCRL | rs794727182 | GG       |
| OCRL | rs794727333 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Orofaciodigital syndrome type 14

Orofaciodigital syndrome type 14 is a rare subtype of orofaciodigital syndrome, with autosomal recessive inheritance and C2CD3 mutations, characterized by severe microcephaly, trigonocephaly, severe intellectual disability and micropenis, in addition to oral, facial and digital malformations (gingival frenulae, lingual hamartomas, cleft/lobulated tongue, cleft palate, telecanthus, up-slanting palpebral fissures, microretrognathia, postaxial polydactyly of hands and duplication of hallux). Corpus callosum agenesis and vermis hypoplasia with molar tooth sign, on brain imaging, are also associated.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| C2CD3 | rs587777653 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Orofaciodigital syndrome type 4

Oral-facial-digital syndrome, type 4 is characterized by lingual hamartoma, postaxial polysyndactyly of hands and feet, and mesomelic shortening of the legs with supinate equinovarus feet.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TCTN3 | rs764091969 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Orofaciodigital syndrome type 5

A rare orofaciodigital syndrome characterized by median cleft of the upper lip, postaxial polydactyly of hands and feet, and oral manifestations (duplicated frenulum).

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| DDX59 | rs587777067 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Otopalatodigital syndrome type 2

A severe form of otopalatodigital syndrome spectrum disorder, and is characterized by dysmorphic facies, severe skeletal dysplasia affecting the axial and appendicular skeleton, extraskeletal anomalies (including malformations of the brain, heart, genitourinary system, and intestine) and poor survival.

# Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| FLNA | rs28935470 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Tumor necrosis factor receptor 1 associated periodic syndrome

Tumor necrosis factor receptor 1 associated periodic syndrome (TRAPS) is a periodic fever syndrome, characterized by recurrent fever, arthralgia, myalgia and tender skin lesions lasting for 1 to 3 weeks, associated with skin, joint, ocular and serosal inflammation and complicated by secondary amyloidosis (see this term).

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| TNFRSF1 | rs104895219 | GG       |
| TNFRSF1 | rs104895217 | AA       |
| TNFRSF1 | rs104895220 | CC       |
| TNFRSF1 | rs104895223 | CC       |
| TNFRSF1 | rs104895228 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **RAPADILINO** syndrome

A rare syndrome for which the acronym indicates the principal signs: RA for radial ray defect, PA for both patellae hypoplasia or aplasia and cleft or highly arched palate, DI for diarrhea and dislocated joints, LI for little size and limb malformations, NO for long, slender nose and normal intelligence.

# Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| RECQL4 | rs386833844 | GG       |
| RECQL4 | rs386833851 | GG       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **SHORT syndrome**

A rare disorder characterized by multiple congenital anomalies. The name is a mneumonic for the common features observed in SHORT syndrome that include; short stature, hyperextensibility of joints, ocular depression, Rieger anomaly and teething delay. Other common manifestations of SHORT syndrome are mild intrauterine growth restriction, partial lipodystrophy, delayed bone age, hernias and a recognizable facial gestalt.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| PIK3R1 | rs397515453 | CC       |
| PIK3R1 | rs587784325 | CC       |
| PIK3R1 | rs797045063 | TT       |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Congenital intrauterine infection-like syndrome

Congenital intrauterine infection-like syndrome is characterised by the presence of microcephaly and intracranial calcifications at birth accompanied by neurological delay, seizures and a clinical course similar to that seen in patients after intrauterine infection with Toxoplasma gondii, Rubella, Cytomegalovirus, Herpes simplex (so-called TORCH syndrome), or other agents, despite repeated tests revealing the absence of any known infectious agent.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| OCLN | rs797045840 | GG       |
| OCLN | rs373915080 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# NPHP3-related Meckel-like syndrome

NPHP3-related Meckel-like syndrome is a rare, genetic, syndromic renal malformation characterized by cystic renal dysplasia with or without prenatal oligohydramnios, central nervous system abnormalities (commonly Dandy-Walker malformation), congenital hepatic fibrosis, and absence of polydactyly.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| NPHP3 | rs119456962 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Wolfram-like syndrome

Wolfram-like syndrome is a rare endocrine disease characterized by the triad of adult-onset diabetes mellitus, progressive hearing loss (usually presenting in the first decade of life and principally of low to moderate frequencies), and/or juvenile-onset optic atrophy. Psychiatric (i.e. anxiety, depression, hallucinations) and sleep disorders, the only neurologic abnormalities observed in this disease, have been reported in rare cases. Unlike Wolfram syndrome, patients with Wolfram-like syndrome do not report endocrine or cardiac findings.

# Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1079 | rs74315205  | GG       |
| WFS1    | rs201239579 | GG       |
| WFS1    | rs71539673  | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Larsen-like syndrome, B3GAT3 type

Larsen-like syndrome, B3GAT3 type is a rare, genetic, primary bone dysplasia characterized by laxity, dislocations and contractures of the joints, short stature, foot deformities (e.g. clubfeet), broad tips of fingers and toes, short neck, dysmorphic facial features (hypertelorism, downslanting palpebral fissures, upturned nose with anteverted nares, high arched palate) and various cardiac malformations. Severe disease is associated with multiple fractures, osteopenia, arachnodactyly and blue sclerae. A broad spectrum of additional features. including scoliosis. radio-ulnar synostosis, mild developmental delay, and various eye disorders (glaucoma, amblyopia, hyperopia, astigmatism, ptosis), are also reported.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| B3GAT3  | rs387906937 | CC       |
| B4GALT7 | rs28937869  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Triple A syndrome**

Triple A syndrome is a very rare multisystem disease characterized by adrenal insufficiency with isolated glucocorticoid deficiency, achalasia, alacrima, autonomic dysfunction and neurodegeneration.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| AAAS | rs121918548 | GG       |
| AAAS | rs121918549 | GG       |
| AAAS | rs121918550 | AA       |
| AAAS | rs754637718 | CC       |
| AAAS | rs150511103 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Spondylocarpotarsal synostosis

A spondylodysplasic dysplasia clinically characterized by postnatal progressive vertebral fusions frequently manifesting as block vertebrae, contributing to an shortened trunk and hence disproportionate short stature, scoliosis, lordosis, carpal and tarsal synostosis and infrequently, club feet.

# Your genetic map

| Gene | SNP        | Genotype |
|------|------------|----------|
| FLNB | rs80356520 | CC       |
| FLNB | rs80356517 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Sitosterolemia

Sitosterolemia is a rare autosomal recessive sterol storage disease characterized by the accumulation of phytosterols in the blood and tissues. Clinical manifestations include xanthomas, arthralgia and premature atherosclerosis. Hematological manifestations include hemolytic anemia with stomatocytosis and macrothrombocytopenia. The disease is caused by homozygous or compound heterozygous mutations in ABCG5 (2p21) and ABCG8 (2p21) genes.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ABCG5 | rs199689137 | GG       |
| ABCG8 | rs137852987 | GG       |
| ABCG8 | rs137852988 | GG       |
| ABCG8 | rs137852991 | CC       |

#### **Multivariate analysis**

### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Deafness with labyrinthine aplasia, microtia, and microdontia

Deafness with labyrinthine aplasia, microtia, and microdontia (LAMM) is a genetic transmission deafness syndrome.

Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FGF3 | rs281860303 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Short stature due to GHSR deficiency

Short stature due to GHSR deficiency is a rare, genetic, endocrine growth disease, resulting from growth hormone secretagogue receptor (GHSR) deficiency, characterized by postnatal growth delay that results in short stature (less than -2 SD). The pituitary gland is typically without morphological changes, although anterior pituitary gland hypoplasia has been reported.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| GHSR | rs121917883 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Microcephalic cortical malformations-short stature due to RTTN deficiency

A rare, genetic, neurodevelopmental disorder with primordial microcephaly characterized by primary microcephaly, moderate to severe intellectual disability, and global developmental delay. Variable brain malformations are common ranging from simplified gyration, to cortical malformations such as pachygyria, polymicrogyria, reduced sulcation and midline defects. Craniofacial dysmorphism (e. g. sloping forehead, high and broad nasal bridge) are related to the primary microcephaly. Short stature is frequently observed, and may be severe.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| RTTN | rs864321621 | TT       |
| RTTN | rs864321620 | TT       |
| RTTN | rs775277800 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Catecholaminergic polymorphic ventricular tachycardia

A rare, severe genetic arrhythmogenic disorder of the structurally normal heart characterized by catecholamine-induced ventricular tachycardia (VT) manifesting as syncope and sudden death in young individuals.

### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| CASQ2 | rs139228801 | GG       |
| CASQ2 | rs786205791 | CC       |
| RYR2  | rs121918597 | CC       |
| RYR2  | rs121918600 | CC       |
| RYR2  | rs121918603 | CC       |
| RYR2  | rs121918605 | AA       |
| RYR2  | rs397516508 | GG       |
| RYR2  | rs397516539 | GG       |
| RYR2  | rs730880187 | CC       |
| RYR2  | rs730880196 | AA       |
| RYR2  | rs794728708 | GG       |
| RYR2  | rs794728721 | GG       |
| RYR2  | rs794728740 | GG       |
| RYR2  | rs794728746 | GG       |
| RYR2  | rs794728753 | GG       |
| RYR2  | rs794728754 | CC       |
| RYR2  | rs794728756 | GG       |
| RYR2  | rs794728777 | GG       |
| RYR2  | rs794728779 | AA       |
| RYR2  | rs794728782 | CC       |
| RYR2  | rs794728785 | CC       |
| RYR2  | rs771994461 | CC       |
| RYR2  | rs794728786 | GG       |
| RYR2  | rs794728787 | AA       |
| RYR2  | rs794728802 | AA       |
| RYR2  | rs794728804 | GG       |
| RYR2  | rs794728810 | TT       |
| RYR2  | rs794728811 | GG       |
| RYR2  | rs794728832 | AA       |
| RYR2  | rs886037908 | CC       |
| RYR2  | rs886037907 | CC       |
|       |             |          |

#### **Multivariate analysis**

# What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Hereditary hemorrhagic telangiectasia

An inherited disorder of angiogenesis characterized by mucocutaneous telangiectases and visceral arteriovenous malformations.

### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| ACVRL1 | rs121909284 | GG       |
| ACVRL1 | rs28936399  | TT       |
| ACVRL1 | rs28936401  | CC       |
| ACVRL1 | rs121909287 | CC       |
| ACVRL1 | rs121909288 | CC       |
| ACVRL1 | rs28936688  | GG       |
| ACVRL1 | rs267606632 | GG       |
| ACVRL1 | rs863223409 | GG       |
| ACVRL1 | rs863223414 | GG       |
| ACVRL1 | rs863223410 | GG       |
| ACVRL1 | rs758683062 | CC       |
| ACVRL1 | rs863223412 | GG       |
| ACVRL1 | rs863223413 | GG       |
| ACVRL1 | rs863223406 | GG       |
| ACVRL1 | rs863223407 | GG       |
| ACVRL1 | rs863223408 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Tyrosinemia type 1

Tyrosinemia type 1 (HTI) is an inborn error of tyrosine catabolism caused by defective activity of fumarylacetoacetate hydrolase (FAH) and is characterized by progressive liver disease, renal tubular dysfunction, porphyria-like crises and a dramatic improvement in prognosis following treatment with nitisinone.

# Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FAH  | rs121965076 | GG       |
| FAH  | rs80338900  | GG       |
| FAH  | rs80338901  | GG       |
| FAH  | rs121965075 | GG       |
| FAH  | rs80338899  | GG       |
| FAH  | rs80338895  | GG       |
| FAH  | rs80338894  | GG       |
| FAH  | rs80338898  | CC       |
| FAH  | rs370686447 | GG       |
| FAH  | rs149052294 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# 46,XY disorder of sex development due to 17-betahydroxysteroid dehydrogenase 3 deficiency

17-beta-hydroxysteroid dehydrogenase isozyme 3 (17betaHSD III) deficiency is a rare disorder leading to male pseudohermaphroditism (MPH), a condition characterized by incomplete differentiation of the male genitalia in 46X,Y males.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| HSD17B3 | rs119481077 | GG       |
| HSD17B3 | rs119481079 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# TELO2-related intellectual disability-neurodevelopmental disorder

A rare genetic multiple congenital anomalies/dysmorphic syndrome characterized by global developmental delay and intellectual disability, infantile hypotonia, microcephaly, movement disorder, and impaired balance. More variable manifestations are hearing loss, cortical visual impairment, abnormalities of fingers and/or toes, congenital cardiac anomalies, kyphoscoliosis, dysmorphic facial features, abnormal sleep pattern, and seizures, among others.

# Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| TELO2 | rs754162070 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Lethal acantholytic erosive disorder

Lethal acantholytic epidermolysis bullosa is a suprabasal subtype of epidermolysis bullosa simplex (EBS, see this term) characterized by generalized oozing erosions, usually in the absence of blisters.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| DSP  | rs121912996 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# ITPA-related lethal infantile neurological disorder with cataract and cardiac involvement

A rare, genetic, neurometabolic disease characterized by early onset encephalopathy with progressive microcephaly, severe global development delay, seizures, hypotonia, feeding difficulties, variable cardiac abnormalities, and cataracts. Brain MRI shows distinct pattern with high T2 signal and restricted diffusion in the posterior limb of the internal capsule in combination with delayed myelination and progressive cerebral atrophy. The disease is typically fatal.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ITPA | rs200086262 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### Familial progressive cardiac conduction defect

A genetic cardiac rhythm disease that may progress to complete atrioventricular (AV) block. The disease is either asymptomatic or manifests as dyspnea, dizziness, syncope, abdominal pain, heart failure or sudden death.

### Your genetic map

| Gene  | SNP          | Genotype |
|-------|--------------|----------|
| DSP   | rs1135401735 | AA       |
| SCN5A | rs397514447  | AA       |
| SCN5A | rs137854607  | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Noonan syndrome-like disorder with juvenile myelomonocytic leukemia

A rare, genetic, polymalformative syndrome characterized by a Noonan-like phenotype associated with increased risk of developing juvenile myelomonocytic leukemia (JMML). The Noonan-like (NS) phenotype includes dysmorphic facial features (i.e. high forehead, hypertelorism, downslanting palpebral fissures, ptosis, low-set ears, prominent philtrum and short neck with or without pterygium developmental delay, hypotonia and small circumference. It can be associated with congenital heart defects or cardiomyopathy, ectodermal anomalies, and short stature. The NS phenotype is subtle or even inapparent in a large proportion of subjects, but may occasionally be severe. Leukemia can be the only clinical manifestation of the syndrome.

#### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| CBL  | rs267606706 | TT       |
| CBL  | rs397507489 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Nijmegen breakage syndrome-like disorder

Nijmegen breakage syndrome-like disorder is a rare, genetic multiple congenital anomalies/dysmorphic syndrome characterized by growth retardation, short stature, developmental delay, intellectual disability, craniofacial dysmorphism (i.e. severe microcephaly, sloping forehead, prominent eyes, broad nasal ridge, hypoplastic nasal septum, epicanthal folds), spontaneous chromosomal instability, cellular hypersensitivity to ionizing radiation and radioresistant DNA synthesis, without severe infections, immunodeficiency or cancer predisposition. Additional reported features include mild spasticity, slight and nonprogressive ataxia, hyperopia, multiple pigmented nevi, widely spaced nipples, and clinodactyly.

### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| RAD50   | rs587780150 | CC       |
| RAD50   | rs377260382 | GG       |
| RAD50   | rs587781742 | GG       |
| RAD50   | rs587781904 | CC       |
| RAD50   | rs587782078 | GG       |
| RAD50   | rs587782090 | GG       |
| RAD50   | rs149201802 | CC       |
| TH2LCRR | rs750586158 | CC       |
| TH2LCRR | rs745797941 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# **Carney triad**

A rare non-hereditary condition characterized by gastrointestinal stromal tumors (GIST, intramural mesenchymal tumors of the gastrointestinal tract with neuronal or neural crest cell origin), pulmonary chondromas and extraadrenal paragangliomas.

### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| SDHB | rs786201095 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Severe primary trimethylaminuria

A rare inborn error of metabolism characterized by the presence of large amounts of trimethylamine in urine, sweat, and breath, resulting in a fishy body odor in affected individuals. While there are no additional signs and symptoms, the condition can have profound psychosocial consequences.

# Your genetic map

| Gene    | SNP        | Genotype |
|---------|------------|----------|
| FMO3    | rs61753344 | GG       |
| FMO3    | rs72549326 | CC       |
| LOC1053 | rs72549334 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Glanzmann thrombasthenia

Glanzmann thrombasthenia (GT) is a bleeding syndrome characterized by spontaneous mucocutaneous bleeding and an exaggerated response to trauma due to a constitutional thrombocytopenia.

# Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| ITGB3 | rs121918446 | CC       |
| ITGB3 | rs121918452 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Congenital amegakaryocytic thrombocytopenia

An isolated constitutional thrombocytopenia characterized by an isolated and severe decrease in the number of platelets and megakaryocytes during the first years of life that develops into bone marrow failure with pancytopenia later in childhood.

#### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| MPL  | rs121913611 | CC       |
| MPL  | rs28928907  | GG       |
| MPL  | rs146249964 | TT       |
| MPL  | rs148434485 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Paris-Trousseau thrombocytopenia

Paris-Trousseau thrombocytopenia (TCPT) is a contiguous gene syndrome characterized by mild bleeding tendency, variable thrombocytopenia (THC), dysmorphic facies, abnormal giant alpha-granules in platelets and dysmegakaryopoiesis.

#### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| FLI1 | rs773148506 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Severe hereditary thrombophilia due to congenital protein C deficiency

Congenital protein C deficiency is an inherited coagulation disorder characterized by deep venous thrombosis symptoms due to reduced synthesis and/or activity levels of protein C.

#### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| LOC1053 | rs121918143 | CC       |
| LOC1053 | rs121918150 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



# Hereditary thrombophilia due to congenital antithrombin deficiency

Hereditary thrombophilia due to congenital antithrombin deficiency is a rare, genetic, hematological disease characterized by decreased levels of antithrombin activity in plasma resulting in impaired inactivation of thrombin and factor Xa. Patients have an increased risk for venous thromboembolism, usually in the deep veins of the arms, legs and pulmonary system and, on occasion, in other venous territories (e.g. cerebral veins or sinus, mesenteric, portal, hepatic, renal and/or retinal veins).

#### Your genetic map

| Gene     | SNP         | Genotype |
|----------|-------------|----------|
| SERPINC1 | rs121909551 | GG       |
| SERPINC1 | rs121909554 | GG       |
| SERPINC1 | rs28929469  | GG       |
| SERPINC1 | rs121909567 | GG       |
| SERPINC1 | rs121909569 | AA       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### **Desmoid tumor**

A desmoid tumor (DT) is a benign, locally invasive soft tissue tumor associated with a high recurrence rate but with no metastatic potential.

#### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| APC  | rs62619935  | CC       |
| APC  | rs876660765 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Familial cold urticaria

Familial cold urticaria (FCAS) is the mildest form of cryopyrin-associated periodic syndrome (CAPS; see this term) and is characterized by recurrent episodes of urticarialike skin rash triggered by exposure to cold associated with low-grade fever, general malaise, eye redness and arthralgia/myalgia.

#### Your genetic map

| Gene  | SNP         | Genotype |
|-------|-------------|----------|
| NLRP3 | rs121908146 | CC       |
| NLRP3 | rs121908148 | AA       |
| NLRP3 | rs28937896  | TT       |
| NLRP3 | rs151344629 | CC       |
| NLRP3 | rs180177445 | AA       |
| NLRP3 | rs180177452 | AA       |
| NLRP3 | rs180177484 | GG       |
| NLRP3 | rs180177431 | TT       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Vasculitis due to ADA2 deficiency

Vasculitis due to ADA2 deficiency is a rare, genetic, systemic and rheumatologic disease due to adenosine deaminase-2 inactivating mutations, combining variable features of autoinflammation, vasculitis, and a mild immunodeficiency. Variable clinical presentation includes chronic or recurrent systemic inflammation with fever, livedo reticularis or racemosa, early-onset ischemic or hemorrhagic strokes, peripheral neuropathy, abdominal pain, hepatosplenomegaly, portal hypertension, cutaneous polyarteritis nodosa, variable cytopenia and immunoglobulin deficiency.

#### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| ADA2 | rs200930463 | CC       |
| ADA2 | rs139750129 | TT       |

#### **Multivariate analysis**

#### What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



### STING-associated vasculopathy with onset in infancy

STING-associated vasculopathy with onset in infancy (SAVI) is a rare, genetic autoinflammatory disorder, type I interferonopathy due to constitutive STING (STimulator of INterferon Genes) activation, characterized by neonatal or infantile onset systemic inflammation and small vessel vasculopathy resulting in severe skin, pulmonary and joint lesions. Patients present with intermittent low-grade fever, recurrent cough and failure to thrive, in association with progressive interstitial lung disease, polyarthritis and violaceous scaling lesions on fingers, toes, nose, cheeks, and ears (which are exacerbated by cold exposure) that often progress to chronic acral ulceration, necrosis and autoamputation.

#### Your genetic map

| Gene   | SNP         | Genotype |
|--------|-------------|----------|
| STING1 | rs587777610 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Hereditary xanthinuria

A rare purine metabolism disorder due to inherited deficiency of the xanthine dehydrogenase/oxidase enzyme and is characterized by very low (or undetectable) concentrations of uric acid in blood and urine and very high concentration of xanthine in urine, leading to urolithiasis.

#### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| XDH  | rs119460972 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Cerebrotendinous xanthomatosis

Cerebrotendinous xanthomatosis (CTX) is an anomaly of bile acid synthesis characterized by neonatal cholestasis, childhood-onset cataract, adolescent to young adult-onset tendon xanthomata, and brain xanthomata with adult-onset neurologic dysfunction.

#### Your genetic map

| Gene    | SNP         | Genotype |
|---------|-------------|----------|
| CYP27A1 | rs397515353 | GG       |
| CYP27A1 | rs121908097 | GG       |
| CYP27A1 | rs121908098 | CC       |
| CYP27A1 | rs121908099 | GG       |
| CYP27A1 | rs397515355 | GG       |
| CYP27A1 | rs121908102 | CC       |
| CYP27A1 | rs72551314  | CC       |
| CYP27A1 | rs533885672 | CC       |
| CYP27A1 | rs188850202 | CC       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:



#### Xeroderma pigmentosum

Xeroderma pigmentosum (XP) is a rare genodermatosis characterized by extreme sensitivity to ultraviolet (UV)-induced changes in the skin and eyes, and multiple skin cancers. It is subdivided into 8 complementation groups, according to the affected gene: classical XP (XPA to XPG) and XP variant (XPV) (see these terms).

#### Your genetic map

| Gene | SNP         | Genotype |
|------|-------------|----------|
| XPA  | rs104894132 | GG       |

#### **Multivariate analysis**

What do your genetics tell us?



We have not detected any pathogenic mutations, but, since we only analyse a part of the gene, you could have a pathogenic mutation in non-analysed genetic regions.

#### More information:

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