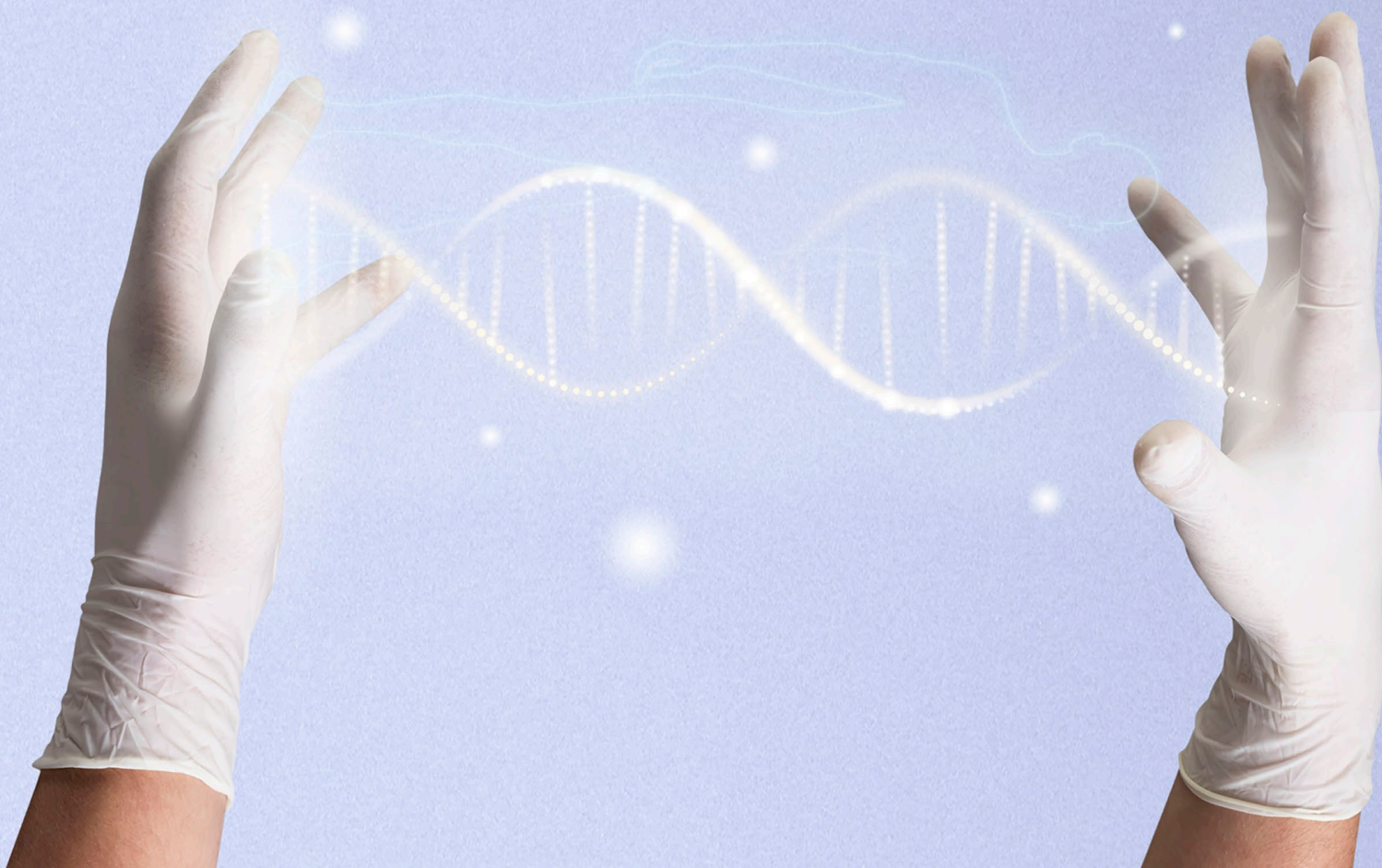


**NxBIOTECH**

**2023**

**PRODUCT  
CATALOG**

**Nx SNPs qPCR  
Detection Kits**







## NxBiotech

is a biotech company based in Poland, operating in the field of genetic laboratory diagnostics and data analysis. We are an inventor and manufacturer of genetic tests. NxBiotech's research and development activities focus on increasing accuracy and reducing the time of genetic analysis. Our patented technology procedure allows for the development of any new genetic test within 4 weeks.

**NxBiotech** quality standards are certified according to ISO 13485:2016, which formalizes recognition of our competence to produce, analyze and distribute nucleic acids, in-vitro diagnostic assays (IVD's) and applications. The company participates in proficiency tests. Proficiency tests are an important part of ongoing qualification/validation.

Processes are described in Standard Operating Procedures. They are reviewed periodically. We maintain a clean and hygienic manufacturing area. The processes are clearly defined, validated and controlled. Instruments are qualified. The requalification period is defined. Instrument-related test documents are archived. Changes that affect the quality are validated if necessary. In cases where the quality cannot be covered by verification, the production process is validated. Records demonstrate that all the steps required by the defined procedures and instructions are in fact taken. Deviations are investigated and documented. Records of manufacture that enable the complete history of a batch to be traced are retained in a comprehensible and accessible form.

Audits are performed to confirm that activities within the different processes correspond to internal and external demands, as well as to investigate the efficiency and suitability of the quality management system. Internal audits verify that the Company's policy is implemented throughout the entire organisation. Supplier qualification is performed regularly.

Products that fall under the scope of European Directive 98/79/EC on In Vitro Diagnostic Device have been specified as CE IVD in the catalogue. This enables us to comply with the general requirements and safety regulations of CE. Find CE IVD logo on the inside pages as shown here:





**Single nucleotide polymorphisms (SNPs)** are one of the most common types of genetic variations in the human genome. SNP mutations can occur in the DNA sequence, encoding protein structure and regulating the level of protein in the system. Consequently, mutations can determine the functionality of proteins and enzymes, e.g., enzyme activity, their affinity for the product, and reaction rate. In some cases also may result in complete loss of protein activity, as well as alter the concentration of the protein in the body. SNPs can result in the appearance of a version of a protein whose functionality has negative outcomes for health. SNPs in genes that regulate DNA mismatch repair, cell cycle, metabolism and immunity are associated with genetic susceptibility to many diseases or even cancers. From a clinical perspective, SNPs are potential diagnostic and therapeutic biomarkers in many cancer types.

Our SNP Detection kits amplify and detect specific polymorphisms in purified genomic DNA samples. Each SNP genotype test allows genotyping of individuals for a single nucleotide polymorphism (SNP). The SNP assay includes forward and reverse primers to amplify surrounding sequence of detected SNP. It also contains two hydrolysis probes. One FAM dye-labeled probe to detect Allele 1 sequence and one VIC/HEX dye-labeled probe to detect Allele 2 sequence.

During the PCR reaction, the DNA polymerase cleaves the specific probe at the 5' end and separates the reporter dye from the quencher dye only when the probe hybridizes to the target DNA. This cleavage results in the fluorescent signal generated by the cleaved reporter dye, which is monitored real-time by PCR detection system. Detecting genotype in specific polymorphism is based on detecting signal from one or two dyes (FAM or VIC/HEX), which represent specific Allele type.



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**Nx SNPs – Health Predispositions**

- Nx Alzheimer’s Disease
- Nx Cardiovascular Diseases
- Nx COVID-19 Severity Risk Assessment
- Nx Obesity Risk
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- Nx Pancreatic Cancer
- Nx Prostate Cancer
- Nx Skin Cancer

## Nx SNPs – Health Predispositions

### Nx Alzheimer’s Disease qPCR Detection Kit



#### DESCRIPTION

Having an unfavourable variant of the analysed genes is the strongest genetic risk factor for Alzheimer’s disease and is associated with impairment of cerebral metabolism and cerebrovascular function. The classic development of the disease may begin long before the first symptoms appear, most often cognitive impairment.

REF. NUMBER

NXSNP01AD

PREDISPOSITION

Alzheimer’s Disease

ANALYSED GENES

APOE, TREM2

IDENTIFIED POLYMORPHISMS

rs429358, rs7412, rs75932628

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
2 × Oligos Set  
2 × Positive Control Set  
2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES

CE IVD

## **DID YOU KNOW...?**

Alzheimer's disease is mainly manifested by cognitive impairments concerning memory, emotions, and learning abilities. The development of the disease causes a gradual and irreversible degeneration and death of nerve cells in the brain. It progresses slowly and is not noticeable at first. Symptoms are usually attributed to age-related changes.

## **WHAT ARE THE SYMPTOMS AND RISK FACTORS?**

Alzheimer's disease is characterised by: short-term memory and learning disabilities, problems with performing tasks requiring memory and concentration, gradual deterioration of long-term memory, language disorders. Alzheimer's disease is multifactorial and usually occurs after several factors have overlapped. Environmental risk factors for developing the disease: old age, over 65 years, low level of social contact, a history of head trauma. The predisposition to the disease also depends on the genetic variant.

## **HOW THE TEST IS PERFORMED?**

The test we offer examines the risk of developing the disease based on mutations found in two genes: APOE and TREM2. TREM2 and APOE genes are DNA fragments that contain instructions for building proteins that contribute to normal brain functioning and are involved in the development of Alzheimer's disease. The real-time PCR method used for the analysis of polymorphisms allows for precise and quick identification of the genotype.

## **HOW WILL THE CLIENT BENEFIT?**

The kit we offer contains ready-to-use reagents, which, when added in the right proportions, are ready for reaction. The product IFU included in the kit allows easy interpretation of the obtained data. The client receives a genetic report with a description of his genotype and a detailed explanation and recommendations tailored to his individual genetic profile. Recommendations indicate to the client the further diagnostic path and preventive measures.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

In the case of Alzheimer's disease, an early diagnosis means a better response to treatment. The offered test provides the client with a precise analysis of genes that will allow him to take appropriate steps to improve his health. The test result will also be useful to plan an effective treatment strategy individually tailored to the patient.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the disease. The great potential of genetic testing makes it possible to predict many diseases and gives a chance to take action to improve the patient's health.

**Nx SNPs – Health Predispositions  
Nx Cardiovascular Diseases  
qPCR Detection Kit**



**DESCRIPTION**

Analysed genes play a key role in the transport and metabolism of lipids and in the maintenance of normal blood pressure. These mutations contribute to the development of diseases such as atherosclerosis, coronary artery disease or heart attack.

REF. NUMBER

NXSNP01CD

PREDISPOSITION

Cardiovascular Diseases

ANALYSED GENES

LPA, AGT, NOS3

IDENTIFIED POLYMORPHISMS

rs10455872, rs699, rs3798220, rs2070744

KIT CONTENTS

4 × 2x MasterMix qPCR Probe  
4 × Oligos Set  
4 × Positive Control Set  
4 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES





## **DID YOU KNOW...?**

The circulatory system is the system that carries oxygen – and nutrient-rich blood throughout the body while draining harmful waste products from the tissues. This system consists of the heart and the blood vessels – arteries, veins, and capillaries. Major cardiovascular diseases causing premature death: atherosclerosis, coronary artery disease (also called ischemic), heart attack, stroke, hypertension, peripheral vascular diseases; chronic heart failure; cardiac rhythm disturbances.

## **WHAT IS THE PREVALENCE OF CARDIOVASCULAR DISEASES?**

According to the report published by The European Heart Network in 2017, cardiovascular diseases are the main cause of mortality in the European population, responsible for more than 3.9 million deaths annually, which is 45% of all deaths in Europe. In men, cardiovascular diseases cause 40% of all deaths, while they account for 49% of deaths in women. Cardiovascular diseases are the main cause of premature death (under 65) in Europe, where they account for approximately 667,000 deaths per year (29% of all deaths under 65).

## **HOW THE TEST IS PERFORMED?**

Cardiovascular diseases have a genetic background. LPA, AGT and NOS3 genes are DNA fragments that contain instructions for building proteins that play a significant role in lipoprotein metabolism and control the volume of circulating blood in the body. For the analysis of LPA, AGT and NOS3 gene polymorphisms, the real-time PCR molecular method is used, which enables precise determination of the genotype.

## **HOW WILL THE CLIENT BENEFIT?**

Interpretation of the obtained results, based on the IFU of the product included in the kit, allows for the preparation of a detailed report containing both the genotype description and recommendations indicating the further diagnostic path. The test we offer is relatively quick, uncomplicated and does not require complicated lab work.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

The offered test gives a susceptible individual a chance to implement preventive measures and avoid premature death. Professional approach to the patient and detailed interpretation of the result along with recommendations will encourage the client to take advantage of the laboratory's offer and do other genetic tests.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the disease. The great potential of genetic testing makes it possible to predict many diseases and provides the patient with an opportunity to take action to improve their health.



## Nx SNPs – Health Predispositions

# Nx COVID-19 Severity Risk Assessment qPCR Detection Kit

### DESCRIPTION

Changes in the state of several genes related to respiratory failure are analysed. An unfavourable variant increases the risk of a severe course of COVID-19.

REF. NUMBER

NXSNP01CR

PREDISPOSITION

COVID-19 Severity Risk Assessment

ANALYSED GENE

n/a

IDENTIFIED POLYMORPHISM

rs11385942

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
 1 × Oligos Set  
 1 × Positive Control Set  
 1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES

**CE IVD**

## **DID YOU KNOW...?**

Since 2019, the SARS-CoV-2 virus has spread all over the world, causing the COVID-19 pandemic. It is an acute infectious disease of the respiratory system with symptoms such as cough, runny nose, fever, fatigue, sputum production, and even shortness of breath, which when exacerbated, can lead to respiratory failure and death. According to the WHO, the mortality rate of this disease is approx. 1.2%. In cases of severe COVID-19, hospital treatment is inevitable, often with the use of a ventilator.

## **WHAT ARE THE RISK FACTORS FOR A SEVERE COURSE OF COVID-19?**

Risk factors that contribute to severe symptoms of viral infection include old age (over 65 years of age), male gender, and comorbidities (hypertension, diabetes, cardiovascular diseases). In addition, severely ill patients have numerous complications, such as visible lung lesions, neurological disorders, and myocarditis. However, there are serious cases of COVID-19 in patients who are not in any of the risk groups. In this case, human genetic characteristics may explain the differences in the severity of COVID-19 symptoms.

## **HOW THE TEST IS PERFORMED?**

The single nucleotide polymorphism rs11385942 has been confirmed to be associated with the respiratory failure observed in COVID-19 disease. The real-time PCR method is used for polymorphism analysis. The unfavorable variant of the rs11385942 polymorphism may predispose to the intensification of disease symptoms and a longer recovery period.

## **HOW WILL THE CLIENT BENEFIT?**

The technique used to analyze the studied polymorphisms ensures precise determination of the genotype, and thus the risk of severe course of COVID-19. Thanks to the ready-to-use reagents included in the kit, the preparation of the reaction mixture is quick, easy and does not require significant lab work. Based on the test result and the decision matrix in the product IFU, the client will receive precise information about their gene variant and the implications for their health. The result is also accompanied by recommendations tailored to the client's genetic profile.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Determining the genetic variant will allow susceptible individuals to take protective measures against viral infection. Awareness of the risk of a severe course of the disease will help to make the decision to vaccinate against COVID-19.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the severe course of the disease.





Nx SNPs – Health Predispositions

## Nx Obesity Risk qPCR Detection Kit

### DESCRIPTION

The FTO gene is responsible for the carbohydrate-lipid balance in the human body and for increased fat storage and weight gain. Obesity causes diseases such as diabetes, hypertension, cardiovascular diseases or cancer.

REF. NUMBER

NXSNP010B

PREDISPOSITION

Obesity Risk

ANALYSED GENE

FTO

IDENTIFIED POLYMORPHISMS

rs1421085, rs9939609

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
2 × Oligos Set  
2 × Positive Control Set  
2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES

## **DID YOU KNOW...?**

Obesity is one of the greatest health threats facing the modern world. It is most common in developed countries. The World Health Organization (WHO) reports that over 2 billion adults worldwide are obese (data from 2014). Although obesity is not a fatal disease, it leads to very serious health complications such as type II diabetes, hypertension, hormonal disorders, cholesterol and triglyceride disorders and cancer, which often result in premature death. It is very important to take preventive measures early in people predisposed to obesity.

## **WHAT IS THE OBESITY GENE?**

The FTO gene is referred to as the obesity gene. Mutation in FTO gene affects BMI by changing eating behavior – increased consumption of high-energy foods (fats and proteins), increased appetite and decreased feeling of satiety, loss of control over eating. It is also related to the components of the metabolic syndrome – sensitivity to insulin, glucose, triglycerides and cholesterol. People with an unfavorable gene variant are more likely to gain weight due to low physical activity and nutritional errors.

## **HOW THE TEST IS PERFORMED?**

The FTO gene is a DNA fragment that contains instructions for building a protein that is involved in the regulation of carbohydrate-lipid balance and is associated with the risk of obesity. The offered research concerns two specific positions in the gene, in which changes (polymorphism) may occur. The real-time PCR method is used to analyze the polymorphism of the FTO gene.

## **HOW WILL THE CLIENT BENEFIT?**

Based on the matrix in the IFU product, the laboratory is able to precisely determine the genetic variant of the client. In addition to the genotype determining the risk of developing the disease, the report includes interpretation and recommendations indicating the client's further diagnostic path. Both of the two tested polymorphisms of the FTO gene have an identical thermal cycling profiles, which allows for simultaneous analysis using one device, which significantly shortens the time to obtain the result.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Physical activity, maintaining a healthy body weight and a balanced diet play an important role in the lives of many people. The increasing awareness of the health consequences of obesity encourages people to check their individual genetic predisposition. Therefore, it is worth expanding your offer with FTO gene testing. High quality of services allows you to gain the client's trust and encourage them to take advantage of other tests offered.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the disease. The great potential of genetic testing makes it possible to predict many diseases and gives a chance to take action to improve health.

**Nx SNPs – Health Predispositions**  
**Nx Parkinson’s Disease**  
**qPCR Detection Kit**



**DESCRIPTION**

Changes in the analysed gene result in defects in communication between nerve cells in the brain, which translates into the characteristic hand tremors and other symptoms of Parkinson’s disease.

REF. NUMBER

NXSNP01PD

PREDISPOSITION

Parkinson’s Disease

ANALYSED GENE

SNCA

IDENTIFIED POLYMORPHISMS

rs356219, rs2736990

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
 2 × Oligos Set  
 2 × Positive Control Set  
 2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES





## **DID YOU KNOW...?**

Parkinson's disease is one of the most common degenerative diseases of the nervous system. It is caused by the loss of cells that produce the neurotransmitter (dopamine) in the substantia nigra pars compacta, the area responsible for coordinating involuntary and rapid movements. The main symptoms of Parkinson's disease: resting tremor, muscular rigidity (characteristic resistance to passive movement of a limb), slowed movement (characterized by difficulty in starting the movement), the sudden interruption of movement that has already begun, lack of facial expression.

## **WHAT ARE THE RISK FACTORS?**

Natural risk factors for developing the disease are age (over 60) and gender (men are more likely to be affected), as well as family history of the disease (genetic factor). Other probable risk factors include head trauma, depression, occupational pesticide exposure, and chronic constipation. The disease is multifactorial and usually occurs when several of these factors overlap. Parkinson's disease also has a genetic background.

## **HOW THE TEST IS PERFORMED?**

The SNCA gene is a DNA fragment that contains instructions for building a protein that plays a role in the functioning of nerve cells in the brain and is associated with the development of Parkinson's disease. The test performed focused on two specific positions in the gene where changes (mutations) can occur. The variant of the SNCA gene is identified using the real-time PCR molecular method.

## **HOW WILL THE CLIENT BENEFIT?**

The technique used to analyze the studied polymorphisms ensures precise determination of the genotype, and thus the risk of developing Parkinson's disease. Thanks to the ready-to-use reagents included in the kit, the preparation of the reaction mixture is quick, easy and does not require much work. Basing on the test result and the decision matrix in the product IFU, the client will receive precise information about their gene variant and a brief explanation of what it means. The result is also accompanied by recommendations tailored to the client's genetic profile.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

The availability of a genetic test gives each person a chance to learn about their individual predispositions and to take possible actions to avoid the disease. Professional approach and individual recommendations indicating further procedure and diagnostic path will encourage the client to continue obtaining information about his DNA and disease predispositions.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the disease. The great potential of genetic testing makes it possible to predict many diseases and gives a chance to take action to improve health.

## Nx SNPs – Health Predispositions

# Nx Psoriasis qPCR Detection Kit



### DESCRIPTION

The HLA-Cw\*06\*02 gene influences the formation of psoriasis, and mutation detection is also useful in differentiating psoriatic arthritis from rheumatoid arthritis (RA), ankylosing spondylitis (AS) and osteoarthritis. Psoriasis is a chronic, systemic disease with characteristic dermatological changes. It has an autoimmune background and can begin at any age, but most often (in about 85% of patients) it begins before the age of 30.

REF. NUMBER

NXSNP01PS

PREDISPOSITION

Psoriasis

ANALYSED GENE

HLA-Cw\*0602

IDENTIFIED POLYMORPHISM

rs4406273

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
1 × Oligos Set  
1 × Positive Control Set  
1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES

CE IVD

## **DID YOU KNOW...?**

Psoriasis is a chronic, systemic disease with characteristic dermatological changes. This disease is autoimmune and may begin at any age, most often (in about 85% of patients) it begins before the age of 30. The disease has many subtypes and forms of varying intensity and degree of development.

## **WHAT ARE THE SYMPTOMS OF PSORIASIS?**

Psoriasis manifests as areas of reddened skin covered with a silver-white scales (the so-called Koebner's symptom). Characteristic for this dermatosis is also the Auspitz symptom, which consists in the occurrence of bleeding at the scratch site, or the stearin candle symptom, which consists in the appearance of an effect similar to the application of a thin layer of stearin at the scratched husk site.

## **HOW THE TEST IS PERFORMED?**

The test is based on the real-time PCR method, which enables precise determination of the patient's genotype. The incidence of psoriasis has been linked to the identification of the HLA-Cw06\*02 gene. The HLA-Cw06\*02 gene is a DNA fragment that contains instructions for building a protein responsible for the development of disease.

## **HOW WILL THE CLIENT BENEFIT?**

The test offered enables the determination of the patient's genotype within a short time and minimum lab work. Analysis of the results based on the matrix contained in the IFU product, provides clear information about the patient's gene variant and provides individual recommendations to the patient depending on the examined polymorphism.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

The disease can appear only in genetically predisposed people. The risk of developing and inheriting this dermatosis increases with the presence of mutation. Awareness of the risk allows for early diagnosis and start of treatment that will alleviate the symptoms of psoriasis. The test result may be useful in differentiating psoriasis from other diseases, therefore the test may be ordered by clinicians.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. Based on the result and the clinical presentation, the doctor will achieve an accurate diagnosis and select the appropriate treatment strategy. The great potential of genetic testing makes it possible to predict many diseases and gives a chance to take action to improve health.



## Nx SNPs – Health Predispositions

# Nx Risk of High Blood Pressure (Hypertension) qPCR Detection Kit



## DESCRIPTION

NOS3, ACE genes are controlling production of enzymes responsible for lowering and regulating blood pressure. Changes in the indicated genes are associated with a change in the level of the enzyme in the body, which increases the likelihood of fluctuations in blood pressure, the development of cardiovascular diseases and may lead to changes in the structure of blood vessels and the development of atherosclerosis.

REF. NUMBER

NXSNP01HB

PREDISPOSITION

Risk of High Blood Pressure (Hypertension)

ANALYSED GENES

NOS3, ACE

IDENTIFIED POLYMORPHISMS

rs2070744, rs4343

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
 2 × Oligos Set  
 2 × Positive Control Set  
 2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Hypertension is a disease characterized by periodically or prolonged high blood pressure, i.e. blood pressure of 140/90 mm Hg or more. In general, it is asymptomatic, but in some cases there may be headaches, low energy or sleep disturbances. Occasionally, high blood pressure also causes more serious health problems, such as ventricular hypertrophy, accelerated development of atherosclerosis, impaired kidney function, and stroke.

## **WHAT ARE THE RISK FACTORS?**

Factors that influence the risk of developing high blood pressure can be divided into:

- genetic factors, i.e. the genetic profile defined by this study,
- environmental factors, such as excessive salt consumption, smoking, low physical activity, diet rich in fat,
- other factors, such as the influence of hormones, certain drugs, the nervous system, adrenaline levels, other comorbidities such as atherosclerosis or obesity.

## **HOW THE TEST IS PERFORMED?**

The NOS3 and ACE genes are DNA fragments that contain instructions for building proteins that are involved in regulating contraction of blood vessel walls. The offered research concerns specific positions in both genes where changes (polymorphisms) may occur. The method used for gene analysis is real-time PCR. The technique used allows for quick and easy identification of the patient's genetic variant.

## **HOW WILL THE CLIENT BENEFIT?**

The kit we offer contains ready-to-use reagents, which, when added in the right proportions, are ready for reaction. The product IFU included in the kit allows easy interpretation of the obtained data. The client receives a genetic report with a description of his genotype and a detailed explanation and recommendations tailored to his individual genetic profile. Recommendations indicate to the client the further diagnostic path and preventive measures.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Hypertension is a so-called lifestyle disease, the health consequences of which can even lead to death. Thanks to genetic testing, susceptible individuals can start treatment and prevent the development of serious complications. Determining a patient's genetic predisposition can be useful for physicians to plan treatment strategies. The prevalence of hypertension in society indicates that testing for predisposition to disease will gain popularity.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the disease. The great potential of genetic testing makes it possible to predict many diseases and gives a chance to take action to improve health.



## Nx SNPs – Health Predispositions

# Nx Type II Diabetes qPCR Detection Kit

### DESCRIPTION

Analysed gene is concerned with the body's correct response to too high blood sugar. Changes in the CDKAL1 gene mean that the insulin produced by the pancreas is less responsive to glucose supplied with food and is secreted in smaller amounts. Consequently, there is a risk of developing type II diabetes.

REF. NUMBER

NXSNP01SD

PREDISPOSITION

Type II Diabetes

ANALYSED GENE

CDKAL1

IDENTIFIED POLYMORPHISMS

rs7756992, rs7754840

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
2 × Oligos Set  
2 × Positive Control Set  
2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES





## **DID YOU KNOW...?**

Type II diabetes is an impairment in the way the body regulates and uses sugar (glucose) as a fuel. It is a very serious disease that leads to complications in the cardiovascular system. The development of the disease may cause the patient's death. In 2019, diabetes and kidney disease due to diabetes caused an estimated 2 million deaths.

## **WHAT CAUSES THE DISEASE?**

The cause of the disease is multifactorial and results from the overlapping of genetic and environmental factors. The gene variant conducive to the development of type II diabetes is unchanged and independent of lifestyle. Having an unfavorable genetic variant increases the risk of diabetes by 1.2 times, while in combination with environmental factors such as obesity, a sedentary lifestyle or overuse of sugars, it increases the risk several times.

## **HOW THE TEST IS PERFORMED?**

In the offered package of genetic predispositions based on the analysis of polymorphisms we mark specific fragment of CDKAL1 gene. Changes in the studied alleles are related to the abnormal formation of the encoded CDKAL1 protein, as a result, it carries the risk of developing type II diabetes. The analysis of polymorphisms is based on the real-time PCR reaction that allows for precise determination of the genotype in a short time.

## **HOW WILL THE CLIENT BENEFIT?**

Based on the test result and the decision matrix in the product IFU, the client will receive precise information about their gene variant and a brief explanation concerning what this variant means. Based on the product IFU the service provider can compile a report with the result and recommendations tailored to the client's genotype.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Type II diabetes is a global endemic disease and the number of patients is constantly increasing. More than 90% of people with diabetes have type II diabetes. The great potential of genetic testing in preventing the development of the disease means that the number of clients will increase. Moreover professional service and a report with a comprehensive explanation of the result and recommendations will encourage the patient to use other genetic tests.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the disease. The great potential of genetic testing makes it possible to predict many diseases and gives a chance to take action to improve health.



## Nx SNPs – Health Predispositions

# Nx Androgenetic Alopecia qPCR Detection Kit

### DESCRIPTION

The HDAC4 gene plays a key role in regulating the communication of androgen receptors and altering the sensitivity of the receptor to dihydrotestosterone (DHT). A mutation in this gene may contribute to the accelerated process of baldness.

REF. NUMBER

NXSNP01AA

PREDISPOSITION

Androgenetic Alopecia

ANALYSED GENE

HDAC4

IDENTIFIED POLYMORPHISM

rs9287638

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
1 × Oligos Set  
1 × Positive Control Set  
1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES

## **DID YOU KNOW...?**

Androgenic alopecia (AGA), also called male pattern baldness, is an inherited disease caused by many genes. Androgens can cause hair follicles to enlarge in the area of the chin, armpits and intimate areas, and on the scalp, their miniaturization and, consequently, baldness.

## **WHY IS IT WORTH KNOWING YOUR GENETIC PREDISPOSITION TO BALDNESS?**

Genetic testing will allow you to assess the risk of baldness in the future. The disease varies in severity and affects both men and women of all ages. In men, hair loss occurs at the temples and / or the top of the head, and in women, hair is thinned all over the scalp. Androgenetic alopecia affects approximately 40% of women under the age of 40 and over 80% of men under the age of 80.

## **HOW THE TEST IS PERFORMED?**

The HDAC4 gene plays a key role in the regulation of androgen receptor transmission. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Knowing their genotype, the client will be able to recognize the cause of their problems with baldness. Having a high risk of baldness, the clients can pass the gene mutations on to their children. Together with the result, the client will receive recommendations.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.

## Nx SNPs – Health Predispositions

### Nx Dyslexia qPCR Detection Kit



#### DESCRIPTION

Analysed genes are responsible for regulation of the movement of nerve cells, the adherence of cells in the development of the cerebral cortex and its external structure, and also influence the process of signal transmission by nerve cells. The changes that arise in them are responsible for psychomotor disorders, which are one of the symptoms of dyslexia.

REF. NUMBER

NXSNP03DY

PREDISPOSITION

Dyslexia

ANALYSED GENES

KIAA0319, DCDC2

IDENTIFIED POLYMORPHISMS

rs4504469, rs793862

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
2 × Oligos Set  
2 × Positive Control Set  
2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES

CE IVD

## **DID YOU KNOW...?**

Developmental dyslexia is a disorder that occurs in children who have difficulty mastering language skills such as reading and writing despite the use of generally accepted teaching methods. Currently, statistics show that the problem of dyslexia affects 10% to 15% of people in the world. Proper diagnosis of dyslexia is not easy. Its symptoms are not very specific and may be mistaken for a natural learning disability in children.

## **WHY IS IMPORTANT?**

The causes of dyslexia can be different and most often we can distinguish more than one factor causing this disorder in a child. Among the main causes of developmental dyslexia, specialists point to genetic, organic and hormonal delayed maturation of the central nervous system and emotional disorders. One of the oldest views on the origin of dyslexia is the genetic concept. Numerous studies indicate the influence of inheritance and changes in genes on the incidence of this disease. Inherited conditions concern 20-30% of dyslexic children.

## **HOW THE TEST IS PERFORMED?**

The KIAA0319 gene and the DCDC2 gene are responsible for dyslexia. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Dyslexia is very difficult to diagnose. Knowing your DNA can explain many aspects of your life. Often, adults who have struggled with reading or writing all their lives want to test their genes after discovering their genotype. A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.



## Nx SNPs – Health Predispositions

### Nx Injury Risk qPCR Detection Kit



#### DESCRIPTION

The polymorphism in the COL5A gene is closely related to EAMC (exercise associated muscle cramping). The mutation in the COL5A gene is associated with an increased susceptibility to the occurrence of painful, uncontrolled muscle spasms. The SOD2 gene codes for a protein that protects muscles against the harmful effects of free radicals formed during exercise. The mutation in this gene is associated with a decrease in the level of the active form of the MnSOD protein and the body's effectiveness in fighting free radicals, which are toxic to the muscles.

REF. NUMBER

NXSNP01IR

PREDISPOSITION

Injury Risk

ANALYSED GENES

COL5A1, SOD2

IDENTIFIED POLYMORPHISMS

rs12722, rs4880

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
2 × Oligos Set  
2 × Positive Control Set  
2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES

CE IVD

## **DID YOU KNOW...?**

The greatest benefits of physical activity include strengthening muscles, improving the condition and efficiency of the body, increasing immunity or reducing stress. However, everyone needs to pay attention to safety and the risk of injury. This applies to both sports enthusiasts and professionals. The risk of an injury may be multifaceted, some of which are genetic. Based on the work of scientists, two genes responsible for the body's susceptibility to injuries have been determined.

## **WHY KNOWLEDGE ABOUT RISK OF INJURIES IS IMPORTANT?**

When we talk about injuries, we talk about EAMC. EAMC, i.e. exercise associated muscle cramping. These are painful and uncontrolled muscle cramping during or immediately after exercise. Clinically, EAMC can be recognized by sharp pain, stiffness, visible muscle bulging or confusion, and possible soreness that may persist for several days. Athletes often complain of EAMC symptoms up to 8 hours after exercise. Some EAMCs do not appear to affect athletic performance, in other cases, the EAMC can be completely debilitating. Therefore, it is worth knowing if their cause comes from genes.

## **HOW THE TEST IS PERFORMED?**

The RT-PCR test provides information about the COL5A gene and the SOD2 gene. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Together with the result, the client will receive recommendations regarding warm-up, exercise and stretching. The client will learn what he needs to pay attention to exercises.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.

## Nx SNPs – Health Predispositions

# Nx Skin Moisture qPCR Detection Kit



### DESCRIPTION

The AQP3 gene is key in skin moisture. The gene is responsible for the efficient transport of water and glycerol between skin cells. Unfavourable changes in this gene result in decreased hydration of the epidermis.

REF. NUMBER

NXSNP01SM

PREDISPOSITION

Skin Moisture

ANALYSED GENE

AQP3

IDENTIFIED POLYMORPHISM

rs1755371

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
1 × Oligos Set  
1 × Positive Control Set  
1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Water constitutes about 50-60% of the body mass, therefore the correct regulation of homeostasis is crucial for the proper functioning of living creatures. The main role in maintaining proper homeostasis is played by aquaporins (AQPs), i.e. water protein channels that enable the transport of water through cell membranes.

## **WHY KNOWLEDGE ABOUT SKIN MOISTURE IS IMPORTANT?**

When it comes to skin hydration, AQP3 is the key aquaporin. It occurs in the basal layer of the epidermis. Increased expression of AQP3 is associated with the skin's response to stress or chemicals. Aquaporin 3 is an important determinant of epidermal proliferation as well as skin cancer development. The outermost layer of the skin, the stratum corneum (SC), consists of keratinocytes that pass from the lower layer of the skin during development. Moisturizing the stratum corneum affects its properties – reduced hydration is associated with age or skin diseases.

## **HOW THE TEST IS PERFORMED?**

The AQP3 gene is a DNA fragment that contains instructions for the construction of proteins that are involved in the transport of water across cell membranes. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

In the era of increasing care for appearance, people want to know the genetic predisposition in this topic. Before they use aesthetic medicine, they will be able to learn about their DNA.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.

## Nx SNPs – Health Predispositions

### Nx Sport Predisposition qPCR Detection Kit



### DESCRIPTION

Analysed genes influence encoding of the protein that is the building block of muscles, as well as proteins responsible for muscle regeneration after damage, the amount of enzyme affecting the blood supply to the tissues, as well as blood pressure. The results allow to determine what types of sports a person is predisposed to.

REF. NUMBER

NXSNP01SP

PREDISPOSITION

Sport Predisposition

ANALYSED GENES

ACTN3, NOS3, AGT, IL6

IDENTIFIED POLYMORPHISMS

rs1815739, rs2070744, rs699, rs1800795

KIT CONTENTS

4 × 2x MasterMix qPCR Probe  
4 × Oligos Set  
4 × Positive Control Set  
4 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES





## **DID YOU KNOW...?**

Many dreams of an athlete's career have not been realized. Children and teenagers spend endless hours training and do not get satisfactory results. Many professional sportsmen only start to win when they change the field of sport. The answer in which sport we will find ourselves best, for which sport we are made, is in our genes.

## **WHY KNOWLEDGE ABOUT SPORTS PREDISPOSITIONS IS IMPORTANT?**

Knowledge about sports aptitude is important to help children and young people develop their best qualities. Professional athletes will understand why they cannot perform better and that they should consider changing the distance or sport.

## **HOW THE TEST IS PERFORMED?**

To determine sports predispositions, the genetic test includes 4 genes, i.e. ACTN3 (rs1815739), NOS3 (rs2070744), IL6 (rs1800795) and AGT (rs699). SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

The genetic test allows to determine the natural predispositions related to the type of muscles you have – is the client more suitable for speed and strength sports or for endurance. It gives the possibility of optimal adjustment of the trained sports discipline to the body's capabilities. The client will be able to create appropriate training programs and avoids injury, fatigue and discouragement.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.

## Nx SNPs – Health Predispositions Nx Stress Tendencies qPCR Detection Kit



### DESCRIPTION

Analysed genes are responsible for enzymes involved in switching off the activity and degradation of neurotransmitters, e.g. dopamine, epinephrine and norepinephrine, as well as production of a protein that acts as a receptor for oxytocin. Long-term stress can lead to endocrine disruptions that are harmful to health, and, as a result, to digestive problems, cardiovascular diseases and fertility problems.

REF. NUMBER

NXSNP01ST

PREDISPOSITION

Stress Tendencies

ANALYSED GENES

COMT1, OXTR

IDENTIFIED POLYMORPHISMS

rs4680, rs53576

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
2 × Oligos Set  
2 × Positive Control Set  
2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES

CE IVD

## **DID YOU KNOW...?**

Stress is the body's response to external and internal stimuli of a threatening nature. Its mechanisms evolved to aid in defense against danger. Although the sources of stress have changed with the development of civilization, the body's responses have remained the same. The stimuli that trigger stress reactions and the level of stress tolerance vary from person to person. Genes that control the amount of stress hormones produced have a great influence on this differentiation.

## **WHY IS IT IMPORTANT TO KNOW THE BODY'S RESPONSE TO STRESS?**

The effects of long-term stress include fast mood swings, feeling overwhelmed, difficulty concentrating, difficult contact with people, general nervousness, low energy levels, headaches, stomach upset, nausea, muscle aches and tension, chest pain and a fast heartbeat, insomnia, as well as frequent colds and infections.

## **HOW THE TEST IS PERFORMED?**

The COMT and OXTR genes are DNA fragments that contain instructions for building proteins that play a role in the body's response to stress. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Stress can be caused by any type of physical or emotional stimulus, and it is an individual matter for each person. The most common types of stress are work-related stress, parental stress, and stress related to certain stages of life. What causes stress in one person may not be important to another. Some people are better able to deal with stress than others because they have different levels of sensitivity and are more able to control it during stressful times. Knowing their genotype, the client will be able to make decisions to improve the quality of their health and well-being.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.

## Nx SNPs – Health Predispositions

# Nx FVL Polymorphism qPCR Detection Kit



### DESCRIPTION

Gene F5 is responsible for factor V. Factor V (Leiden factor) is a blood coagulation factor whose active form is required for the proper conversion of prothrombin to thrombin. This mutation causes disturbances in haemostasis in the body, leading to an increased risk of thromboembolic changes or habitual miscarriages.

REF. NUMBER

NXSNP01FL

PREDISPOSITION

FVL Polymorphism

ANALYSED GENE

F5

IDENTIFIED POLYMORPHISM

rs6025

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
1 × Oligos Set  
1 × Positive Control Set  
1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES

## **DID YOU KNOW...?**

Thrombophilia is a congenital (genetically determined) or acquired thromboembolic complications predisposition. The clots that form block the veins, obstructing blood circulation and ischemia. During the disease there is an increased risk of blood clots in the deep veins, mainly in the legs and arms. Pulmonary embolism is also possible. Thrombophilia also causes thrombus formation in the vessels of the abdominal cavity and the venous sinuses of the brain.

## **WHAT IS THE COURSE OF THROMBOPHILIA IN PREGNANT WOMEN?**

Thrombophilia is a dangerous disease in pregnant women. Pregnancy is accompanied by hypercoagulation (an increase in blood clotting is the natural preparation of a woman's body for childbirth), which may interact with thrombophilia as an additional risk factor. The presence of inherited thrombophilia is a risk factor for maternal thromboembolism and adverse pregnancy outcomes, including fetal loss in the second and third trimesters, placental abruption, severe intrauterine growth restriction, and early onset of severe preeclampsia due to vascular-placental insufficiency.

## **HOW THE TEST IS PERFORMED?**

The test is based on the PCR method, which enables precise determination of the genotype and thus the risk of developing thrombophilia. Congenital thrombophilia is caused by genetic mutations, most often in the prothrombin gene (blood coagulation factor II) and factor V. In the course of the study, the polymorphism of the F5 gene is analyzed. The Leiden factor (factor F5) is one of the most common and inherited risk factors for thrombosis.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Interpretation of the obtained results, based on the IFU of the product included in the kit, allows for the preparation of a detailed report containing both the genotype description and recommendations indicating the further diagnostic path. The test we offer is relatively quick, uncomplicated and does not require a lot of work.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. Awareness of the presence of the mutation, i.e. an increased risk of hypercoagulability, will allow for the rapid implementation of anticoagulant therapy and avoid serious complications in the future. It will also help a woman to properly prepare for pregnancy, and the doctor will properly guide her in order to avoid complications.



## Nx SNPs – Health Predispositions

# Nx FVR2 Polymorphism qPCR Detection Kit



### DESCRIPTION

The presence of the FVR2 mutation in the F5 gene which significantly increases the risk of thrombophilia. Clinically significant in individuals carrying the V Leiden mutation. Thrombophilia is a disease characterized by increased blood clotting and the formation of clots (most often venous). This disease can lead to a heart attack, stroke, thrombosis.

REF. NUMBER

NXSNP01FR

PREDISPOSITION

FVR2 Polymorphism

ANALYSED GENE

FVR2

IDENTIFIED POLYMORPHISM

rs1800595

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
1 × Oligos Set  
1 × Positive Control Set  
1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Thrombophilia is a congenital (genetically determined) or acquired thromboembolic complications predisposition. The clots that form block the veins, obstructing blood circulation and ischemia. During the disease there is an increased risk of blood clots in the deep veins, mainly in the legs and arms. Pulmonary embolism is also possible. Thrombophilia also causes thrombus formation in the vessels of the abdominal cavity and the venous sinuses of the brain.

## **WHAT IS THE COURSE OF THROMBOPHILIA IN PREGNANT WOMEN?**

Thrombophilia is a dangerous disease in pregnant women. Pregnancy is accompanied by hypercoagulation (an increase in blood clotting is the natural preparation of a woman's body for childbirth), which may interact with thrombophilia as an additional risk factor. The presence of inherited thrombophilia is a risk factor for maternal thromboembolism and adverse pregnancy outcomes, including fetal loss in the second and third trimesters, placental abruption, severe intrauterine growth restriction, and early onset of severe preeclampsia due to vascular-placental insufficiency.

## **HOW THE TEST IS PERFORMED?**

The test is based on the PCR method, which enables precise determination of the genotype and thus the risk of developing thrombophilia. Congenital thrombophilia is caused by genetic mutations, most often in the prothrombin gene (blood coagulation factor II) and factor V. In the course of the study, the polymorphism of the F5 gene is analyzed, also called R2 polymorphism. Coexistence of the R2 polymorphism rs1800595 with factor V Leiden rs6025 increases the risk for venous thrombosis approximately to a 16-fold increased risk.

## **HOW WILL THE CLIENT BENEFIT?**

Interpretation of the obtained results, based on the IFU of the product included in the kit, allows for the preparation of a detailed report containing both the genotype description and recommendations indicating the further diagnostic path. The test we offer is relatively quick, uncomplicated and does not require a lot of work.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

The test result will be especially useful for women planning pregnancy. Genotype, where mutation is presence, determines the high risk of developing congenital thrombophilia and the occurrence of habitual miscarriages. Testing for congenital thrombophilia is recommended, especially after collecting a family history suggesting hypercoagulability problems among related individuals.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. Awareness of the presence of the mutation, i.e. an increased risk of hypercoagulability, will allow for the rapid implementation of anticoagulant therapy and avoid serious complications in the future. It will also help a woman to properly prepare for pregnancy, and the doctor will properly guide her in order to avoid complications.

## Nx SNPs – Health Predispositions

# Nx PAI-1 Polymorphism qPCR Detection Kit



### DESCRIPTION

The PAI-1 gene responsible for the formation of a protein necessary in the dissolution of blood clots in the human body. Abnormalities in this gene lead to an increased risk of blockages in the blood vessels, which can lead to a heart attack, stroke, thrombosis and is especially dangerous during pregnancy as it can cause miscarriage.

REF. NUMBER

NXSNP01PA

PREDISPOSITION

PAI-1 Polymorphism

ANALYSED GENE

PAI-1

IDENTIFIED POLYMORPHISM

rs1799762

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
 1 × Oligos Set  
 1 × Positive Control Set  
 1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Thrombophilia is a congenital (genetically determined) or acquired thromboembolic complications predisposition. The clots that form block the veins, obstructing blood circulation and ischemia. During the disease there is an increased risk of blood clots in the deep veins, mainly in the legs and arms. Pulmonary embolism is also possible. Thrombophilia also causes thrombus formation in the vessels of the abdominal cavity and the venous sinuses of the brain.

## **WHAT ARE THE SYMPTOMS OF THROMBOPHILIA?**

Symptoms of thrombophilia include: during deep vein thrombosis – calf pain when walking, swelling, tenderness, warmth; pulmonary embolism – shortness of breath, chest pain, cough, fainting, sometimes haemoptysis; cerebral venous thrombosis – headaches, nausea, vomiting, visual disturbances, limb paresis, convulsions, disturbances of consciousness.

## **HOW THE TEST IS PERFORMED?**

The test is based on the PCR method, which enables precise determination of the genotype and thus the risk of developing thrombophilia. In the course of the study, the polymorphism of the PAI-1 gene is analyzed. Mutation in PAI-1 gene results in an increased level of the PAI-1 protein in the blood, which is associated with an increased inhibition of the thrombolysis process.

## **HOW WILL THE CLIENT BENEFIT?**

Interpretation of the obtained results, based on the IFU of the product included in the kit, allows for the preparation of a detailed report containing both the genotype description and recommendations indicating the further diagnostic path. The test we offer is relatively quick, uncomplicated and does not require a lot of work.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

The test result will be especially useful for women planning pregnancy. The presence of inherited thrombophilia is a risk factor for maternal thromboembolism and adverse pregnancy outcomes, including fetal loss in the second and third trimesters, placental abruption, severe intrauterine growth restriction, and early onset of severe pre-eclampsia due to placental insufficiency.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. Awareness of the presence of the mutation, i.e. an increased risk of hypercoagulability, will allow for the rapid implementation of anticoagulant therapy and avoid serious complications in the future. It will also help a woman to properly prepare for pregnancy, and the doctor will properly guide her in order to avoid complications.

## Nx SNPs – Health Predispositions

# Nx Prothrombin Polymorphism qPCR Detection Kit



### DESCRIPTION

Analysed gene F2 is responsible for production of prothrombin. Prothrombin is essential in blood clotting, i.e. clot formation. Changes in this gene may have an influence on the genetic predisposition to chromophylls, thromboembolic complications or habitual miscarriages.

REF. NUMBER

NXSNP01PP

PREDISPOSITION

Prothrombin Polymorphism

ANALYSED GENE

F2

IDENTIFIED POLYMORPHISM

rs1799963

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
1 × Oligos Set  
1 × Positive Control Set  
1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES





## **DID YOU KNOW...?**

Thrombophilia is a congenital (genetically determined) or acquired thromboembolic complications predisposition. The clots that form block the veins, obstructing blood circulation and ischemia. During the disease there is an increased risk of blood clots in the deep veins, mainly in the legs and arms. Pulmonary embolism is also possible. Thrombophilia also causes thrombus formation in the vessels of the abdominal cavity and the venous sinuses of the brain.

## **WHAT ARE THE SYMPTOMS OF THROMBOPHILIA?**

Symptoms of thrombophilia include: during deep vein thrombosis – calf pain when walking, swelling, tenderness, warmth; pulmonary embolism – shortness of breath, chest pain, cough, fainting, sometimes haemoptysis; cerebral venous thrombosis – headaches, nausea, vomiting, visual disturbances, limb paresis, convulsions, disturbances of consciousness.

## **HOW THE TEST IS PERFORMED?**

The test is based on the PCR method, which enables precise determination of the genotype and thus the risk of developing thrombophilia. Congenital thrombophilia is caused by genetic mutations, most often in the prothrombin gene (blood coagulation factor II) and factor V. In the course of the study, the polymorphism of the F2 gene is analyzed. The F2 gene is a piece of DNA that contains instructions for building proteins involved in blood clotting.

## **HOW WILL THE CLIENT BENEFIT?**

Interpretation of the obtained results, based on the IFU of the product included in the kit, allows for the preparation of a detailed report containing both the genotype description and recommendations indicating the further diagnostic path. The test we offer is relatively quick, uncomplicated and does not require a lot of work.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

The test result will be especially useful for women planning pregnancy. Genotype, where mutation is present, determines the risk of developing congenital thrombophilia and the occurrence of habitual miscarriages. Testing for congenital thrombophilia is recommended, especially after collecting a family history suggesting hypercoagulability problems among related individuals.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. Awareness of the presence of the mutation, i.e. an increased risk of hypercoagulability, will allow for the rapid implementation of anticoagulant therapy and avoid serious complications in the future. It will also help a woman to properly prepare for pregnancy, and the doctor will properly guide her in order to avoid complications.

**Nx SNPs – Dietetics Predispositions**  
**Nx Caffeine Metabolism**  
**qPCR Detection Kit**



**DESCRIPTION**

Analysed gene is responsible for, among others, the caffeine metabolism rate. The process of removing caffeine from the organism may take place at different rates, largely depending on the variant of the CYP1A2 gene a person has.

REF. NUMBER

NXSNP02CM

PREDISPOSITION

Caffeine Metabolism

ANALYSED GENE

CYP1A2

IDENTIFIED POLYMORPHISM

rs762551

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
 1 × Oligos Set  
 1 × Positive Control Set  
 1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Caffeine is the most commonly used psychoactive substance in the world. The most common sources of caffeine are coffee, tea and, to a lesser extent, cocoa. Caffeine is also a common ingredient in energy drinks, cola drinks, as well as chocolate and certain medications. The health effects of caffeine depend largely on how quickly it is metabolized by the body. Caffeine metabolism is genetically determined.

## **WHY KNOWLEDGE ABOUT CAFFEINE METABOLISM IS IMPORTANT?**

Excessive caffeine consumption is a known risk factor for cardiovascular disease and even heart attack. However, this applies primarily to people who metabolise caffeine slowly. In addition, these people eliminate toxic and carcinogenic compounds from the body more slowly. Symptoms of slow caffeine metabolism: headache, restlessness, drowsiness, irritability, trembling hands, insomnia. People with slow caffeine metabolism are characterized by a prolongation of this process and a stronger effect of caffeine on the body. This means that for them, caffeine has stronger stimulating properties, and the effects of its consumption last longer. In people with this gene variant, caffeine consumption should be kept to a level of 200 mg per day.

## **HOW THE TEST IS PERFORMED?**

The CYP1A2 gene is a DNA fragment that contains instructions for building proteins that are involved in the metabolism of caffeine. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the lab technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **HOW WILL THE CLIENT BENEFIT?**

Interpretation of the obtained results, based on the IFU of the product included in the kit, allows for the preparation of a detailed report containing both the genotype description and recommendations indicating a further potential diagnostic path. The test we offer is relatively quick, uncomplicated and does not require a lot of lab work.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Many people do not know about the metabolism of caffeine. They are looking for the cause of their problems. A genetic test will enable them to obtain this information as it pertains to caffeine consumption. The study of caffeine metabolism will give them information on how to optimize their caffeine intake.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. A patient who has a genetic predisposition to slow caffeine metabolism potentially has other genetic mutations that indicate an increased risk of other diseases. Without the need for sequencing, clients can access information about many DNA fragments that affect key parameters of their lives.

## Nx SNPs – Dietetics Predispositions

# Nx Cholesterol Metabolism qPCR Detection Kit



### DESCRIPTION

The APOE gene is responsible for the metabolism of Cholesterol and thus its overall concentration in the body. The consequence of abnormalities in the cholesterol economy may be: atherosclerosis, coronary artery disease, heart attack or stroke.

REF. NUMBER

NXSNP02HM

PREDISPOSITION

Cholesterol Metabolism

ANALYSED GENE

APOE

IDENTIFIED POLYMORPHISMS

rs429358, rs7412

KIT CONTENTS

3 × 2x MasterMix qPCR Probe  
3 × Oligos Set  
3 × Positive Control Set  
3 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

According to the World Health Organization (WHO), 17.5 million people die annually from cardiovascular diseases. This means that this group of diseases is the most important and common cause of human mortality in the world. High blood cholesterol is a major risk factor for cardiovascular disease. Cholesterol occurs in the body in a form related to polypeptides: HDL, or high-density lipoprotein (good cholesterol), LDL, or low-density lipoprotein (bad cholesterol).

## **WHY KNOWLEDGE ABOUT CHOLESTEROL METABOLISM IS IMPORTANT?**

Having knowledge about the body's ability to convert cholesterol is extremely important. High cholesterol leads to atherosclerosis, high blood pressure, ischemic stroke, heart attack. Ultimately, it can be the cause of death. Therefore, it is worth checking whether we have a genetic predisposition to hypertriglyceridemia.

## **HOW THE TEST IS PERFORMED?**

The rapid RT-PCR test can detect mutations in the ApoE gene. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one equipment. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

High cholesterol is a silent killer. People are often unaware that they have health problems. The result of the genetic test can help in quick diagnosis when diseases of the circulatory system appear. In addition, there is a chance to avoid them or reduce their intensity.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives. After obtaining the result showing an increased risk of high cholesterol, it is worth performing additional genetic tests – the risk of hypertension, cardiovascular diseases, the risk of obesity.

**Nx SNPs – Dietetics Predispositions**  
**Nx Folic Acid Metabolism**  
**qPCR Detection Kit**



**DESCRIPTION**

Analysed gene is responsible for the effective absorption of folic acid. Changes in the MTHFR gene can reduce the folic acid conversion activity by approximately 70%.

REF. NUMBER

NXSNP02FA

PREDISPOSITION

Folic Acid Metabolism

ANALYSED GENE

MTHFR

IDENTIFIED POLYMORPHISMS

rs1801133, rs1801131

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
 2 × Oligos Set  
 2 × Positive Control Set  
 2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES





## **DID YOU KNOW...?**

Folic acid is a key factor, necessary for the proper functioning of the nervous, circulatory and cardiovascular system. This vitamin participates in the metabolism of amino acid and nucleic acid. Folic acid deficiency can result in serious disorders, for example nervous system disorder, megaloblastic anemia, atherosclerosis.

## **WHY IS IT IMPORTANT TO KNOW ABOUT FOLIC ACID METABOLISM?**

It is especially important for women planning a pregnancy because of its role in neural tube formation in the fetus. Given the significance of folic acid for human health, it is important to maintain an optimal level of this component in our bodies.

## **HOW THE TEST IS PERFORMED?**

Mutations in the MTHFR gene have a significant impact on folic acid level in humans. Thanks to our reagents included in the kit, we can quickly and accurately determine the client's genotype. The results are easy to interpret. In the included IFU, you can compare each curve and draw conclusions. In addition, in order to facilitate the work, we attach abbreviated recommendations corresponding to each genotype. The reagents are ready to use. Each stage of the test is described step by step in the manual. No sequencing is needed.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Based on the test result and the decision matrix in the product IFU, the client will receive precise information about their gene variant and a brief explanation concerning what this variant means. Based on the product IFU the service provider can compile a report with the result and recommendations tailored to the client's genotype.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire their trust and ignite the desire to learn about other genes. It is worth checking for the presence of various genetic mutations to have a broader view of your health. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.

**Nx SNPs – Dietetics Predispositions**

**Nx Iron Metabolism  
qPCR Detection Kit**



**DESCRIPTION**

The *TMPRSS6* gene plays a key role in maintaining the balance of iron levels in the body. Changes in this gene are the cause of the predisposition to the so-called iron dependant iron deficiency anaemia.

REF. NUMBER

NXSNP02IM

PREDISPOSITION

Iron Metabolism

ANALYSED GENE

TMPRSS6

IDENTIFIED POLYMORPHISM

rs4820268

KIT CONTENTS

- 1 × 2x MasterMix qPCR Probe
- 1 × Oligos Set
- 1 × Positive Control Set
- 1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Iron is a biologically important element due to its ability to be an electron donor and acceptor, which is crucial in the course of reduction and oxidation reactions in the cell. The demand for iron and the efficiency of its metabolism are variable and depend on many factors. Although environmental factors may affect iron metabolism disorders, it is estimated that genetic factors may account for 20–30% of the fluctuations of this element in the blood.

## **WHY IRON IS IMPORTANT?**

Iron is involved in the transport of oxygen in the body, contributes to the proper functioning of the immune system and performs numerous other functions. Low iron levels can lead to anemia manifested by tiredness, pale skin, weakness, breathlessness and dizziness.

## **HOW THE TEST IS PERFORMED?**

The Tmprss6 gene is a DNA fragment that contains instructions for building a protein that helps maintain the proper level of iron in the blood. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Genetic testing of iron metabolism is a very attractive option for people who are looking for the cause of their problems, and blood test results consistently show low iron levels. Anemia is a common disease, and its cause is not always due to a poor diet. With the development of science, new diagnostic methods are possible. Therefore, using RT-PCR, we can quickly and with 100% accuracy determine whether the cause of low iron levels is in the genes.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire their trust and ignite the desire to learn about other genes. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.

## Nx SNPs – Dietetics Predispositions

# Nx Vitamin B<sub>12</sub> Metabolism

## qPCR Detection Kit



### DESCRIPTION

The FUT2 gene is responsible for production of an enzyme involved in the absorption of vitamin B<sub>12</sub> in the small intestine and its transport between the cells in the human body. People with an unfavourable genetic variant have a higher risk of vitamin B<sub>12</sub> deficiency, related to the malabsorption of this vitamin.

REF. NUMBER

NXSNP02VB

PREDISPOSITION

Vitamin B<sub>12</sub> Metabolism

ANALYSED GENE

FUT2

IDENTIFIED POLYMORPHISM

rs601338

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
 1 × Oligos Set  
 1 × Positive Control Set  
 1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Vitamin B<sub>12</sub> plays an extremely important role in our body, and its correct level is essential for optimal human function. It has the largest structure of all vitamins, and its second name – cobalamin – is due to its cobalt content. It is a vitamin produced only with the participation of microorganisms. Because the body cannot make it on its own, we need to provide it with our food.

## **WHY IS IT IMPORTANT TO KNOW ABOUT VITAMIN B<sub>12</sub> METABOLISM?**

Vitamin B<sub>12</sub> is extremely versatile. It takes part in the production of nucleic acids and red blood cells, and is responsible for many metabolic reactions. Vitamin B<sub>12</sub> deficiency affects many systems and causes a wide spectrum of symptoms. Cardiovascular symptoms – anemia, manifested by dizziness, pallor and shortness of breath, weakness or rapid heart rate and concentration disorders.

Symptoms of the nervous system – there may be disturbances in the sense of hearing, smell or sensation, as well as movement disorders and characteristic dizziness.

Gastrointestinal symptoms – loss of appetite and weight loss, nausea and taste disturbances, swelling and redness of the tongue.

Symptoms of the skin – Vitamin B<sub>12</sub> deficiency can result in vitiligo or a change in skin tone to pale yellow.

## **HOW THE TEST IS PERFORMED?**

Mutations in the FUT2 gene have a significant impact on vitamin B<sub>12</sub> level in the human body. Thanks to our reagents included in the kit, we can quickly and accurately determine the client's genotype. The results are easy to interpret. In the included IFU, you can compare each curve and draw conclusions. In addition, in order to facilitate the work, we attach abbreviated recommendations corresponding to each genotype. The reagents are ready to use. Each stage of the test is described step by step in the manual. No sequencing is needed.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Genetic tests make it possible to discover the causes of many common health and wellness conditions. As a result of the genetic test, the client can better understand their genetic make-up and the implications for their health and well-being.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. It is worth checking for the presence of various genetic mutations to have a broader view of your health. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.

## Nx SNPs – Dietetics Predispositions Nx Vitamin C Metabolism qPCR Detection Kit



### DESCRIPTION

The GSTT1 gene responsible for production of the enzyme that affects the metabolism of vitamin C by the human body. Deletion in this gene reduces the patient’s ability to metabolize vitamin C and results in its lower level compared to people with a similar diet and supplementation.

REF. NUMBER

NXSNP02VC

PREDISPOSITION

Vitamin C Metabolism

ANALYSED GENE

GSTT1

IDENTIFIED POLYMORPHISM

n/a

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
1 × Oligos Set  
1 × Positive Control Set  
1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES





## **DID YOU KNOW...?**

Vitamin C is necessary for proper functioning of the human body. It is considered that vitamin C is one of the most prevalent antioxidative components of fruit and vegetables. The main function of this component is improvement of immunity.

## **WHY IS IT IMPORTANT TO KNOW ABOUT VITAMIN C METABOLISM?**

The result of the genetic analysis provides the patient with information regarding their genotype leading to correct or incorrect vitamin C metabolism. Individuals with predisposition to changes in metabolism are recommended to cover the full demand for this vitamin from the food sources and to take a supplement. Supplementation is recommended for anyone with incorrect vitamin C metabolism, especially for people physically active, people with intestinal diseases (possible worse absorption), with disturbed iron metabolism in the body (or with a genetic predisposition to impaired iron metabolism), and those recovering e.g., after surgeries, in wound healing.

## **HOW THE TEST IS PERFORMED?**

Mutations in the GSTT1 gene have a significant impact on vitamin C level in the human body. Thanks to our reagents included in the kit, we can quickly and accurately determine the client's genotype. The results are easy to interpret. In the included IFU, you can compare each curve and draw conclusions. In addition, in order to facilitate the work, we attach abbreviated recommendations corresponding to each genotype. The reagents are ready to use. Each stage of the test is described step by step in the manual. No sequencing is needed.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Based on the test result and the decision matrix in the product IFU, the client will receive precise information about their gene variant and a brief explanation concerning what this variant means. Based on the product IFU the service provider can compile a report with the result and recommendations tailored to the client's genotype.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire their trust and ignite the desire to learn about other genes. It is worth checking for the presence of various genetic mutations to have a broader view of your health. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.

# Nx SNPs – Dietetics Predispositions

## Nx Vitamin D Metabolism qPCR Detection Kit



### DESCRIPTION

Analysed genes are responsible for the metabolism and transport of vitamin D in the body. Adverse changes in these genes may predispose to ineffective vitamin D metabolism.

REF. NUMBER

NXSNP02VD

PREDISPOSITION

Vitamin D Metabolism

ANALYSED GENES

CYP2R1, GC

IDENTIFIED POLYMORPHISMS

rs10741657, rs2282679

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
 2 × Oligos Set  
 2 × Positive Control Set  
 2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Vitamin D<sub>3</sub> is produced in human skin as a result of UVB radiation (sun, UV lamps). It is the most important source of this vitamin and accounts for approximately 80% of the requirement. The rest is complemented by natural food products. Most Europeans show an insufficient intake of vitamin D, which in the absence of adequate exposure to UVB radiation may pose a high risk of vitamin D deficiency and its health consequences. In Central and Northern Europe, from October to March, the wavelength of radiation is too low and there are too few hours of sunshine per day for the body to produce enough vitamin D.

## **WHY IS IT IMPORTANT TO KNOW ABOUT VITAMIN D METABOLISM?**

Vitamin D deficiency symptoms are: bone pains, muscle aches, rapid fatigue, insomnia, diarrhea, periodontal disease, appetite problems, hypertension. The knowledge of a reduced metabolism will help to avoid these symptoms and, when they appear, will help to reduce them.

## **HOW THE TEST IS PERFORMED?**

The CYP2R1 and GC genes are DNA fragments that contain instructions for building proteins that are involved in the metabolism of vitamin D. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one equipment. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready, quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Nowadays, most clients work in offices, in front of the computer, not having the opportunity to go out for fresh air. Outside, smog prevents the sun's rays from reaching our skin. If the client's genes show also lower vitamin D metabolism, the effects can be very serious. Therefore, in order to encourage the client to perform the test, it is necessary to inform him about them and thanks to the recommendations contained in the IFU, you can show the client what they should do to optimize their vitamin D levels.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. It is worth checking for the presence of various genetic mutations to have a broader view of your health. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.

## Nx SNPs – Dietetics Predispositions

# Nx Vitamin E Metabolism qPCR Detection Kit



### DESCRIPTION

The CD36 gene affects the digestibility of fats in the body. Adverse changes in this gene may be the reason for the predisposition to ineffective metabolism of vitamin E, which is absorbed only in the presence of fats.

REF. NUMBER

NXSNP02VE

PREDISPOSITION

Vitamin E Metabolism

ANALYSED GENE

CD36

IDENTIFIED POLYMORPHISM

rs1527479

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
1 × Oligos Set  
1 × Positive Control Set  
1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## DID YOU KNOW...?

Vitamin E,  $\alpha$ -tocopherol, is an essential micronutrient and, next to vitamin C, one of the strongest antioxidants. For this reason, vitamin E is called the „vitamin of youth“. It also has a strong anti-inflammatory effect. In addition, research has shown that vitamin E may reduce the risk of developing Alzheimer's disease and Parkinson's disease. Vitamin E also contributes to the maintenance of the proper functions of the reproductive organs of men and women, while during pregnancy, an optimal amount aids in the development of the fetus. In people with cancer, vitamin E supplementation during the treatment period may reduce the incidence and severity of side effects of their therapy.

## WHY VITAMIN E IS IMPORTANT?

When there is a lack of vitamin E, it can lead to muscle weakness, tingling and numbness of the limbs, problems with motor coordination and walking. This is the so-called peripheral neuropathy. It is caused by damage to the nerve fibers. Vitamin E deficiency can also lead to weakening of the visual receptors, which are found in the retina, among others. If we lack vitamin E, we can suffer from lowered immunity and face various types of infections more often. Vitamin E deficiency can also accompany some chronic diseases, including celiac disease or chronic pancreatitis.

## HOW THE TEST IS PERFORMED?

The CD36 gene is responsible for the metabolism of vitamin E. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## WHY IS IT WORTH DOING A GENETIC TEST?

In an era of excessive working hours and overstimulation, many people want to know the causes of their fatigue, deteriorating skin or nervous problems. Young people want to know as much as possible about themselves and be aware of the risks. This will allow them to prepare or avoid many problems. The study of vitamin E metabolism will give them information on how to eat, what cosmetics to use and what may await them in the future.

## WHAT CAN BE DONE AFTER THE TEST RESULT?

A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.

## Nx SNPs – Dietetics Predispositions

### Nx Coeliac Disease qPCR Detection Kit



## DESCRIPTION

The HLA gene group encodes proteins that are involved in the excessive immune response of the human body to gluten. The result of this action is inflammation and, as a result, damage to the intestinal mucosa. The HLA-DQ protein is composed of two subunits - alpha and beta. There are many versions of the beta and alpha subunit that are components of the different variants of the HLA-DQ protein. People with coeliac disease usually have one of three protein variants - HLA-DQ2.5, HLA-DQ2.2, or HLA-DQ8. HLA-DQ2.5 is expressed in over 90% of those with coeliac disease.

REF. NUMBER

NXSNP02CD

PREDISPOSITION

Coeliac Disease

ANALYSED GENE

HLA-DQA1, HLA-DQB1

IDENTIFIED POLYMORPHISM

DQA1\*05, DQB1\*02

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
2 × Oligos Set  
2 × Positive Control Set  
2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES

CE IVD



## **DID YOU KNOW...?**

Up to 80 million people worldwide are diagnosed with gluten intolerance. Every year this number increases. A proven method of assessing your gluten tolerance is a gastroscopy with excision of the sample needed for analysis. Another option is a non-invasive genetic test – all you need is a cheek swab or a saliva sample.

## **WHY IS IT IMPORTANT TO KNOW ABOUT GLUTEN INTOLERANCE?**

Undiagnosed coeliac disease causes severe abdominal pain, diarrhea, constipation, intestinal cramps, feeling of overflowing, reflux, gas. In addition, it destroys the intestinal villi, causing their complete disappearance. It prevents the absorption of nutrients, therefore causes a decrease in weight, deficiencies of many extremely important substances.

## **HOW THE TEST IS PERFORMED?**

The HLA-DQ2.5 genes are responsible for gluten tolerance. Alleles analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

The test allows you to avoid the painful procedure of gastroscopy or colonoscopy. Most (if not all) patients will choose the non-invasive option. People want to know as much as possible about themselves and be aware of the risks. This will allow them to prepare or avoid many problems. The study of gluten intolerance will give them information on how to eat or what to avoid.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives. From our genome we can learn about other intolerances and predispositions that often occur simultaneously with gluten intolerance. That is why the client often comes back for a new dose of self-knowledge.

**Nx SNPs – Dietetics Predispositions**  
**Nx Fructose Intolerance**  
**qPCR Detection Kit**



**DESCRIPTION**

The ALDOB gene is responsible for production of the enzyme that metabolizes fructose in the liver. Adverse changes in this gene may reduce the efficiency of fructose digestion, which may lead to liver poisoning.

REF. NUMBER

NXSNP02FI

PREDISPOSITION

Fructose Intolerance

ANALYSED GENE

ALDOB

IDENTIFIED POLYMORPHISM

rs1800546

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
 1 × Oligos Set  
 1 × Positive Control Set  
 1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Fructose is a simple carb that occurs naturally in fruit, honey, some vegetables and the nectar of certain flowers. Many people in the world, more than 1 in 20,000, show fructose intolerance. It is a very dangerous condition. In the absence of awareness of its existence, it can lead to serious conditions.

## **WHY TOLERANCE OF FRUCTOSE IS IMPORTANT?**

Fructose intolerance is manifested primarily by ailments of the digestive system. The most characteristic symptoms of fructose intolerance to fruit sugar: bloating, excessive gas, abdominal pain, a feeling of fullness, swelling in the abdomen, nausea and vomiting, diarrhea or constipation. Undiagnosed fructose intolerance can also lead to being underweight and a lack of appetite. In addition, the diseases that coexist with fructose intolerance are very often other food intolerances, depression, nutritional deficiencies or decreased immunity. Patients often suffer from hypoglycaemia manifested by weakness, drowsiness, and sometimes even loss of consciousness or convulsions.

## **HOW THE TEST IS PERFORMED?**

The ALDOB gene is a DNA fragment that contains instructions for building a protein that enables fructose to be metabolized. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Many people do not know about the existence of fructose intolerance. They are looking for the cause of their problems. A genetic test will enable them to obtain this information. The study of fructose metabolism will give them information on how to eat, what drugs to use and what may await them in the future.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire their trust and ignite the desire to learn about other genes. A patient who has a genetic predisposition to fructose intolerance probably has other genetic mutations that indicate an increased risk of other diseases. Without the need for sequencing, clients can access information about many DNA fragments that affect key parameters of their lives.

**Nx SNPs – Dietetics Predispositions**  
**Nx Lactose Intolerance**  
**qPCR Detection Kit**



**DESCRIPTION**

The MCM6 gene is responsible for the production of the enzyme that metabolizes lactose. Depending on the type of MCM6 gene you have, a specific level of this enzyme is produced, which affects the digestion of lactose by the body.

REF. NUMBER

NXSNP02LI

PREDISPOSITION

Lactose Intolerance

ANALYSED GENE

MCM6

IDENTIFIED POLYMORPHISMS

rs4988235, rs182549

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
 2 × Oligos Set  
 2 × Positive Control Set  
 2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Lactose intolerance is a common condition that makes everyday life difficult. Prevalence among adults is up to 70% in Europe and as much as 80-100% in Asia and Africa. The main cause of lactose intolerance is a congenital lack of the lactase enzyme. The first symptoms can be seen around the age of 2, but the incidence increases with age. This ailment is most often diagnosed in adolescence and in adults.

## **WHY IS IT IMPORTANT TO KNOW ABOUT FOOD INTOLERANCE?**

In addition to congenital lack of lactase (alactasia) or deficiency (hypolactasia) of the lactase enzyme, lactose intolerance may develop due to diseases that destroy the epithelium and intestinal villi responsible for the production of lactase, this condition is referred to as secondary or acquired intolerance. Depending on the degree of intolerance, symptoms appear from a few minutes to 2 hours after consuming a dairy product. The characteristic symptoms include: nausea, flatulence, intestinal flooding, feeling of fullness, intestinal colic, low pH of the feces.

## **HOW THE TEST IS PERFORMED?**

To determine the genetic predisposition to lactose tolerance, we check 2 polymorphisms of the MCM6 gene. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Every day another person experiences discomfort, pain or problems with the digestive system. To check whether his situation is due to lactose intolerance, genetic testing will be the best method. They are accurate and fast and give a clear indication of whether person can consume dairy. The development of technology and knowledge allows us to easily find substitute products, e.g. plant-based drinks. However, to be sure whether it is worth giving up dairy products, it is recommended to perform a genetic test.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire his trust and ignite the desire to learn about other genes. Discomfort or abdominal pain can have various causes. It is worth checking for the presence of various genetic mutations to have a broader view of your health. Without the need for sequencing, you can access information about many DNA fragments that affect key parameters of our lives.

**Nx SNPs – Dietetics Predispositions**  
**Nx Peanut Allergy**  
**qPCR Detection Kit**



**DESCRIPTION**

Analysed gene plays a key role in hereditary peanut allergy. Changes in the HLA-DRA gene are associated with an increased susceptibility to the development of peanut allergies, especially among people of European origin.

REF. NUMBER

NXSNP02PA

PREDISPOSITION

Peanut Allergy

ANALYSED GENE

HLA-DRA

IDENTIFIED POLYMORPHISM

rs7192

KIT CONTENTS

1 × 2x MasterMix qPCR Probe  
 1 × Oligos Set  
 1 × Positive Control Set  
 1 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

240 million people worldwide are allergic to nuts. Food allergy (especially nuts allergy) is a growing health problem that affects ~8% of children worldwide. Genetic factors seem to play a leading role in the development of FA, though interaction with environmental factors cannot be excluded. The broader network of genetic loci mediating the risk of this complex disorder remains to be identified.

## **WHAT MAY HAPPEN?**

An allergy to nuts or peanuts can lead to a life-threatening anaphylactic shock (anaphylaxis). That is why it is so important to properly diagnose allergies and educate yourself about avoiding allergenic allergens, as well as managing anaphylaxis. Symptoms of an allergic reaction appear a few minutes after eating a nut (immediate reaction). They depend on the ingested dose of the sensitizing food. Large doses usually cause more severe allergic reactions (mainly after ingestion of food, much less frequently through contact with the skin). They are often manifested by itching in the mouth and swelling of the lips.

## **HOW THE TEST IS PERFORMED?**

The mutation in HLA-DRA gene increases susceptibility to peanut allergy. SNP analysis using our reagents is fast and accurate. Thanks to the IFU instructions included in the kit, the technician can easily interpret the results. The reaction lasts about 2 hours, and the temperature-time profile is selected so that the laboratory can analyze several genes simultaneously using one device. Ready-to-use reagents are included in the kit. It is enough for the lab technician to add each of them in the right proportion and the reaction is ready. Quickly, easily and professionally.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Based on the test result and the decision matrix in the product IFU, the client will receive precise information about their gene variant and a brief explanation concerning what this variant means. Based on the product IFU the service provider can comply a report with the result and recommendations tailored to the client's genotype.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

A professional approach to the client will inspire his trust and ignite their desire to learn about other genes. Without the need for sequencing, clients can access information about many DNA fragments that affect key parameters of their lives.



Nx SNPs – Cancer Predispositions

# Nx Breast and Ovarian Cancer qPCR Detection Kit



## DESCRIPTION

These genes code a protein responsible for inhibiting tumor growth by participating in DNA repair mechanisms. Mutations in the gene lead to the formation of cancer cells. The genetic burden associated with abnormalities in the indicated genes significantly increases the risk of breast and ovarian cancer, and is also hereditary.

REF. NUMBER

NXSNP04BC

PREDISPOSITION

Breast and Ovarian Cancer

ANALYSED GENES

BRCA1, BRCA2

IDENTIFIED POLYMORPHISMS

rs80357906, rs28897672, rs80357711, rs80357914, rs80359550

KIT CONTENTS

5 × 2x MasterMix qPCR Probe  
 5 × Oligos Set  
 5 × Positive Control Set  
 5 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

According to WHO, in the European Region, breast cancer is the most common cancer and the leading cause of cancer death amongst women. The latest statistics from 2020 show that 576 337 women in Europe were diagnosed with breast cancer and 157 111 died from the disease. WHO data says that at the end of 2020 there were 2.3 million women alive, diagnosed with breast cancer in the previous 5 years. Due to the high frequency of breast and ovarian cancer incidence it is important to be aware of the risk of these diseases.

## **WHAT MAY HAPPEN?**

Genetic predisposition to breast or ovarian cancer strongly influences the incidence of these cancers. The BRCA1 and BRCA2 genes play a key role in cancer development. Changes in these genes result in loss of proteins function which can lead to development of disease. A mutation in BRCA1/2 leads to a lifetime likelihood of breast cancer of over 80%. There is a 70% risk of developing breast cancer before the age 70 and 59% before the age 50 if the mutation occurs in BRCA1. Risk of developing ovarian cancer in BRCA1 mutation is 40% before the age 70 and 16% before the age of 50. If mutation occurs in BRCA2 gene, the risk of developing breast cancer is 56% and ovarian cancer 27%. Moreover BRCA2 mutation increases the risk of other types of cancers: colon cancer and pancreatic cancer for both men and women.

## **HOW THE TEST IS PERFORMED?**

In the offered package of genetic predispositions based on the analysis of polymorphisms we mark BRCA1 and BRCA2 genes. The offered test informs the patient about their genetic polymorphisms without the time consuming need to sequence the genetic material. Fast and precise real-time PCR test is used for gene analysis.

## **HOW WILL THE CLIENT BENEFIT?**

The technique used allows for efficient determination of the patient's genotype in a short time and thus determining the risk of the disease. The preparation of the reaction mixture is simple and requires a small quantity of reagents. Identical thermal cycling profiles of some BRCA1 gene polymorphisms allow simultaneous analysis, which speeds up the result. An additional advantage is the uncomplicated analysis of the obtained data which compares the sample's signals with the matrix presented in the IFU.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Thanks to education on the genetic background in the development of breast and ovarian cancer, these studies are gaining more and more acceptance. Professional service and a report with a comprehensive explanation of the result and recommendations will encourage the patient to use other genetic tests. This is particularly important in the case of diseases such as breast and ovarian cancer, in which early diagnosis gives a chance for effective treatment.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the disease. The great potential of genetic testing makes it possible to predict many diseases and provides the patient with an opportunity to take action to improve their health.

Nx SNPs – Cancer Predispositions  
**Nx Colorectal Cancer  
 qPCR Detection Kit**



**DESCRIPTION**

Analysed gene is responsible for production of a protein that inhibits the growth of colon cancer by controlling the frequency of cell division and protecting against the unimpeded growth of cancer cells. Colorectal Cancer is the second most common cancer affecting humanity.

REF. NUMBER

NXSNP04CC

PREDISPOSITION

Colorectal Cancer

ANALYSED GENES

APC, CRAC1

IDENTIFIED POLYMORPHISMS

rs1801155, rs4779584

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
 2 × Oligos Set  
 2 × Positive Control Set  
 2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## DID YOU KNOW...?

Colorectal cancer is the third most common cancer in men in the world and the second in women. This type of cancer is the second most common cause of death from cancer. It is estimated that by the year 2035, the total number of deaths from rectal and colon cancer will increase by 60% and 71.5%, respectively. Among other risk factors like: obesity, unhealthy diet, excessive alcohol consumption and smoking, genetic predisposition is similarly important.

## WHAT MAY HAPPEN?

APC and CRAC1 mutations are frequent in patients with colorectal cancer. Mutation in APC gene increases the risk of familial adenomatous polyposis coli (FAP). During the course of this disease the patient's colon starts to develop polyps and many of these colon polyps evolve into cancer. The other disease – hereditary mixed polyposis syndrome (HMPS) is associated with single nucleotide polymorphism in the CRAC1 region. Similar to FAP, the patient's colon begins to develop polyps and many of these evolve into cancer over time.

## HOW THE TEST IS PERFORMED?

The APC and CRAC1 genes are DNA fragments containing instructions for building proteins that are involved in the development of colorectal cancer. The test performed focuses on two specific positions in the gene where changes (mutations) can occur. The real-time PCR method is used for gene analysis. It allows for a fast and accurate determination of the patient's genotype.

## HOW WILL THE CLIENT BENEFIT?

The offered test provides information about the patient's polymorphism without the need for time-consuming sequencing. The preparation of the reaction mixture is simple and requires a small amount of reagents and test material. An additional advantage is the same thermal cycling profile for both genes, which allows for simultaneous analysis using the same device and obtaining results in a short time. The ease of interpretation of the results based on matrix in IFU product allows for the efficient determination of the patient's genotype and the risk of developing the disease.

## WHY IS IT WORTH DOING A GENETIC TEST?

Malignant neoplasms are the so-called diseases of civilization, which are often rooted in an unhealthy lifestyle. Processed products, lack of physical activity, stimulants such as alcohol or cigarettes are the norm in developed countries. The increasing awareness of people about diseases encourages them to perform genetic tests, which is why the demand for genetic predisposition tests is constantly growing, especially in the case of such serious diseases as cancer.

## WHAT CAN BE DONE AFTER THE TEST RESULT?

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the disease. The great potential of genetic testing makes it possible to predict many diseases and gives a chance to take action to improve health.

## Nx SNPs – Cancer Predispositions

# Nx Lung Cancer qPCR Detection Kit



### DESCRIPTION

Analysed genes are responsible for production of proteins that inhibit the growth and reproduction of damaged cells, as well as regulate the aging process of cells and the binding of harmful substances entering the lungs, including nicotine. Abnormalities in the indicated genes result in the formation of a protein that does not respond to DNA damage, increases the negative effects of smoking and the risk of addiction to nicotine, thus leading to a much greater risk of respiratory cancer.

REF. NUMBER

NXSNP04LC

PREDISPOSITION

Lung Cancer

ANALYSED GENES

CHRNA3, CDKN1A

IDENTIFIED POLYMORPHISMS

rs1051730, rs1801270

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
2 × Oligos Set  
2 × Positive Control Set  
2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Lung cancer is the second most common cancer in men and women after prostate and breast cancer, respectively. This type of cancer is more common in men. 70 years old is an average age of diagnosis. Lung cancer is the leading cause of deaths from cancer in the world. The major cause of lung cancer is tobacco smoking. According WHO about 2.2 million cases of lung cancer were estimated to have occurred in 2020. Almost 1.8 million people died from lung cancer in 2020.

## **WHAT MAY HAPPEN?**

A positive family history of lung cancer and genetic polymorphism are of great significance in the development of the disease. The CHRNA3 and CDKN1A genes are associated with lung cancer. Research suggests that the presence of the mutation in CHRNA3 gene causes a reduced sensitivity of the body to plasma nicotine levels, which leads to increased consumption of tobacco and thus higher doses of toxic and carcinogenic substances contained in cigarettes. A mutation in the CDKN1A gene results in a modification of the structure of a protein that plays a role in the development of lung cancer.

## **HOW THE TEST IS PERFORMED?**

The CHRNA3 and CDKN1A genes are DNA fragments containing instructions for building proteins that play a role in lung cancer development. The performed test concerns specific positions in both genes, where changes (mutations) can occur. The real-time PCR method is used to genes analysis. The technique used allows for efficient determination of the patient's genotype in a short time and thus determining the risk of the disease.

## **HOW WILL THE CLIENT BENEFIT?**

The test we offer allows you to determine the genotype of the tested patient in a short time and with the small amount of work. Analysis of the results based on the matrix contained in the IFU product, provides clear information about the patient's gene variant and allows you to provide individual recommendations to the patient depending on the examined polymorphism.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Due to the growing number of cases and deaths due to lung cancer, more and more patients decide to undergo genetic testing. Early detection of the disease gives a chance for effective treatment, which is why many patients want to know the individual risk of cancer development in order to implement prevention in advance.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the disease. The great potential of genetic testing makes it possible to predict many diseases and gives a chance to take action to improve health.

## Nx SNPs – Cancer Predispositions

# Nx Pancreatic Cancer qPCR Detection Kit



### DESCRIPTION

Analysed genes are responsible for production of enzymes in the pancreas. Abnormalities in the production of these enzymes result in inflammation of the pancreas, which over time can lead to cancer of the pancreas.

REF. NUMBER

NXSNP04PC

PREDISPOSITION

Pancreatic Cancer

ANALYSED GENES

PRSS1, SPINK1

IDENTIFIED POLYMORPHISMS

rs111033565, rs17107315

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
 2 × Oligos Set  
 2 × Positive Control Set  
 2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES





## DID YOU KNOW...?

Pancreatic cancer is seventh among cause of death from cancer. This type of cancer is highly lethal and is still characterised by low 5-year survival rate. Pancreatic cancer is more frequent in developed countries. It was estimated that 111,500 people will die from pancreatic cancer in Europe by 2025. Globally, 458,918 new cases of pancreatic cancer have been reported in 2018, and 355,317 new cases are estimated to occur until 2040.

## WHAT MAY HAPPEN?

PRSS1 and SPINK1 genes are associated with an increased risk of pancreatic cancer. The PRSS1 gene encodes trypsinogen, a precursor to the digestive enzyme - trypsin, which is responsible for proper protein digestion in the body. The SPINK1 gene encodes a pancreatic secretory trypsin inhibitor (PSTI). The inhibitor disables approximately 20% of intra-pancreatic trypsin activity. Mutations in these genes cause loss of trypsinogen and PSTI function. Without this function, the pancreas is exposed to repeated damage that may lead to the development of pancreatic inflammation and, consequently, the neoplastic process. You should be vigilant if you observe: nausea, vomiting, weight loss and lack of appetite, diarrhoea, depression, recurrent pancreatitis, subcutaneous nodules, abdominal pain, located in the upper abdominal region (epigastric), often radiating to the spine.

## HOW THE TEST IS PERFORMED?

The PRSS1 and SPINK1 genes are fragments of DNA containing instructions for building proteins that contribute to the development of pancreatic cancer. The test performed concerned specific positions in both genes, where changes (mutations) can occur. The real-time PCR method is used for gene analysis, which allows for fast determination of the patient's genetic variant and thus the risk of developing pancreatic cancer.

## HOW WILL THE CLIENT BENEFIT?

The preparation of the reaction mixture is simple and requires a small amount of reagents and test material. An additional advantage is the same thermal cycling profile for both genes, which allows for simultaneous analysis using the same device and obtaining results in a short time. The ease of interpretation of the results based on matrix in the IFU of the product allows for the efficient determination of the patient's genotype and the risk of developing the disease.

## WHY IS IT WORTH DOING A GENETIC TEST?

Professional service and a report with a comprehensive explanation of the result and recommendations will encourage the patient to use other genetic tests. This is particularly important in the case of diseases such as pancreatic cancer, in which early diagnosis gives a chance of survival.

## WHAT CAN BE DONE AFTER THE TEST RESULT?

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the disease. The great potential of genetic testing makes it possible to predict many diseases and gives a chance to take action to improve health.

Nx SNPs – Cancer Predispositions  
**Nx Prostate Cancer  
 qPCR Detection Kit**



**DESCRIPTION**

Analysed genes are responsible for the formation of proteins involved in stopping the development of prostate cancer. Abnormalities in these genes lead to impaired functions of the emerging proteins and, consequently, an increased chance of developing prostate cancer, as well as faster development of the disease.

REF. NUMBER

NXSNP04RC

PREDISPOSITION

Prostate Cancer

ANALYSED GENES

HOXB13, CHEK2

IDENTIFIED POLYMORPHISMS

rs138213197, rs555607708

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
 2 × Oligos Set  
 2 × Positive Control Set  
 2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Prostate cancer is a major cause of disease and mortality among men. It is the third most common diagnosed malignancy. Every year 1.6 million men are diagnosed and 366 000 die of this disease. This type of cancer is diagnosed mainly in men over the age 60, below the age of 40 is rare, but the number of younger patients increases. The exact causes of the development of prostate cancer are not known. It is known that the occurrence of this type of cancer is associated primarily with older age and genetic factors.

## **WHAT MAY HAPPEN?**

Older age, obesity, metabolic syndrome, smoking, lack of activity are factors which increase risk of the disease, but the most significant is family history of the cancer and genetic predisposition. The HOXB13 and CHEK2 genes are fragments of DNA containing instructions for building proteins that protect against cancer development. As a result of mutations in these genes, the process of carcinogenesis occurs which leads to the development of prostate cancer. These genes are responsible for about 30-40 percent cases of this cancer at a young age.

## **HOW THE TEST IS PERFORMED?**

The test performed concerns specific positions in HOXB13 and CHEK2 genes, where changes (mutations) can occur. Using the real-time PCR method, we determine the patient's genotype and the risk of the disease that is associated with it. Interpretation of the test result, i.e., information about the risk of developing prostate cancer, depends on whether either of the two alleles carries a mutation.

## **HOW WILL THE CLIENT BENEFIT?**

Interpretation of the obtained results, based on the IFU of the product included in the kit, allows for the preparation of an extensive report containing both the genotype description and recommendations indicating the further diagnostic path. The test we offer is relatively quick, uncomplicated and does not require a lot of lab work.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Professional service and a report with a comprehensive explanation of the result and recommendations will encourage the patient to use other genetic tests. This is particularly important in the case of diseases such as prostate cancer, in which early diagnosis gives a chance for effective treatment.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the disease. The great potential of genetic testing makes it possible to predict many diseases and gives a chance to take action to improve health.

Nx SNPs – Cancer Predispositions

## Nx Skin Cancer qPCR Detection Kit



### DESCRIPTION

Analysed genes are responsible for production of proteins that inhibit the development of skin cancer, as well as for the proper pigmentation, which is very important for the protection of the skin. People with abnormalities in the indicated genes belong to the group of increased risk of skin cancer, including melanoma.

REF. NUMBER

NXSNP04SC

PREDISPOSITION

Skin Cancer

ANALYSED GENES

CDKN2A, MC1R

IDENTIFIED POLYMORPHISMS

rs730881674, rs1805006

KIT CONTENTS

2 × 2x MasterMix qPCR Probe  
2 × Oligos Set  
2 × Positive Control Set  
2 × Nuclease-Free Water

QUANTITY

100 reactions

STORAGE CONDITIONS

-25°C to -15°C

CERTIFICATES



## **DID YOU KNOW...?**

Melanoma is a malignant tumor that is caused by the transformation of melanocytes into cancerous cells. There are about 25 new cases of melanoma per 100 000 population in Europe. According to the latest data provided by World Cancer Research Fund International there were more than 150,000 new cases of melanoma of skin in 2020.

## **WHAT MAY HAPPEN?**

Melanoma is caused by skin cells that begin to develop abnormally. Exposure to ultraviolet (UV) light from the sun is thought to cause most melanomas, but there's evidence to suggest that some may result from sunbed exposure. Radiation has a mutagenic effect on DNA, which causes uncontrolled cell multiplication and at the same time inhibits the excretion of used or damaged cells from the body. Genetic factors are also of great importance and result from mutations occurring in the CDKN2A and MC1R genes. Both mutations contribute to the development of skin cancer.

## **HOW THE TEST IS PERFORMED?**

The CDKN2A and MC1R genes are fragments of DNA containing instructions for building proteins that can be involved in melanoma development. Analysis of specific fragments of these genes performed using the real-time PCR method allows to determine the genotype and thus the risk of developing skin cancer. The interpretation of the test result, i.e., information about the risk of developing melanoma, depends on whether and which of the two alleles carries the mutation. Changes in the tested alleles are associated with the malfunction of the encoded proteins and an increased risk of melanoma development.

## **HOW WILL THE CLIENT BENEFIT?**

Interpretation of the obtained results, based on the IFU of the product included in the kit, allows for the preparation of a detailed report containing both the genotype description and recommendations indicating the further diagnostic path. The test we offer is relatively quick, uncomplicated and does not require a lot of lab work.

## **WHY IS IT WORTH DOING A GENETIC TEST?**

Professional service and a report with a comprehensive explanation of the result and recommendations will encourage the patient to use other tests. It is worth expanding the laboratory's offer with genetic tests, as it is an increasingly used form of prevention of many diseases.

## **WHAT CAN BE DONE AFTER THE TEST RESULT?**

In the case of an unfavorable variant of the gene, it is important to follow the recommendations and consult a doctor. It should be remembered that a normal genotype does not exclude the disease. The great potential of genetic testing makes it possible to predict many diseases and gives a chance to take action to improve health.



[nxbiote.ch](http://nxbiote.ch)