DNA test report
(Male)

X Y

Sample Code 0000

Reporting Date 05/04/2022

Introduction

The test is addressed to everyone who considers health and wellness to be essential and aspires to become more aware of their personal health risks.

Therefore, the test is an excellent choice, designed to include valuable information on your genes in terms of different medical conditions.

In the current report you can find thorough knowledge on your personal risks in order to make your everyday choices and to change health habits if needed.

Our aim is to translate genetic data into clear answers and thereby helping people to make informed decisions based on their genetic prepositions and risks.

Our experts provide firm support in explaining test results and finding personal solutions to take part in modeling of healthy living. You are welcome to contact us with any questions.

Before looking at your results

Our risk assessment system is based on the latest scientific and medical knowledge available in the most respected scientific and medical journals. You can learn about your health risks and medical conditions, and receive health recommendations in different sections of the report.

Right after this instruction you can see a Summary table showing the correlation of your disease risks to the European ancestry population's average risks.

Your Test Results chapter contains a more detailed description of the results along with disease risk circles and ways on how to reduce the disease risk.

The following chapter, Overview of the Diseases, gives a short description of tested diseases and conditions.

If you would like to learn about your individual detected genetic markers, this can be done in the Genetic Markers Information table. The final page of this report includes a Glossary.

Your Risk is the probability of your developing a condition at some point during your lifetime. The risk calculation takes into account the examined genetic markers and the average lifetime risk for your gender.

The Average Risk is calculated based on the data collected from individuals of European ancestry. You can compare yourself with the average population risk shown in the second circle. Please keep in mind that the risk calculation does not cover other than genetic factors.

Environmental factors such as smoking, diet, stress, and physical activity play an important role in the development of tested conditions. In case your risk is low it does not guarantee that you will not have the disease, or in case of high risk you may never develop the disease in your lifetime.

Disclaimer

The genetic susceptibility to complex diseases or conditions is determined as the consequence of the joint effects of many genes, often interacting among themselves and with the environment. Therefore, when assessing disease risk, genetic information is but one of the factors in developing the disease; environmental and lifestyle effects also play an important role. The total risk for developing the disease cannot be solely based on the assessment of the genetic testing results. For most conditions or diseases, the genes we know about and which are analyzed in this test are only responsible for a small fraction of the risk. Increased risk for developing the disease does not necessarily mean getting the disease, as does the opposite - the disease may nevertheless be present in low-risk patients if environmental factors or other currently unknown risk factors decrease or increase the probability of getting the disease. Risk evaluation takes into account the risk in the general population, which does not mean a one-to-one risk for every single member of the population.

In the interpretation of the genetic test, it should be taken into consideration that current knowledge on the genetics of the disease or pathogenic disorder, or on the interactions of various genes, may be incomplete. The current interpretation of the genetic test may be subject to change in the future due to the publication of new scientific studies. The personal diet and health recommendations in the current interpretation are based on the data submitted in the questionnaire, and any inaccurate or missing information may result in a misleading interpretation. This report is provided to you for informational and educational purposes only, and does not replace a visit to a physician, nor does it replace the advice or services of a physician.

Summary

Disease name	Risk Level	Your risk %	Average risk %	Genetic risk
Alzheimer disease	average	10	10	1.0
Atrial fibrillation	lower	21	26	0.77
Basal cell carcinoma	lower	31	33	0.9
Bladder cancer	average	3.9	4.1	0.93
Breast cancer	NA			
Celiac disease	lower	0.05	1	0.05
Colorectal cancer	lower	4.1	5.3	0.76
Coronary artery disease	lower	16	47	0.22
Exfoliating glaucoma	higher	20	15	1.4
Folate metabolism	high			
Gallstone disease	lower	10	12	0.85
Gastric cancer	higher	1.3	0.98	1.4
Graves' disease	higher	11	1.2	11
Intracranial aneurysm	lower	2.7	3.2	0.85
Lactose intolerance	lower			
Lung cancer	lower	4.5	7.8	0.56
Male breast cancer	lower	0.09	0.14	0.66
Male pattern baldness	lower	18	80	0.06

Disease name	Risk Level	Your risk %	Average risk %	Genetic risk
Melanoma	lower	2.1	3	0.69
Migraine with aura	higher	21	18	1.2
Multiple sclerosis	higher	0.11	0.06	1.9
Obesity	lower	32	37	0.82
Osteoporosis	average	12	13	0.91
Peripheral arterial disease	lower	13	15	0.88
Primary open angle glaucoma	average	2.1	2.1	1
Prostate cancer	average	17	16	1.1
Psoriasis	lower	0.27	2.5	0.11
Rheumatoid arthritis	average	1.7	1.7	1
Sugar consumption	average			
Systemic lupus erythematosus	higher	0.36	0.21	1.7
Type 1 diabetes	lower	0.07	0.59	0.12
Type 2 diabetes	lower	18	33	0.43
Venous thromboembolism	lower	4.3	5	0.86
Vitamin B12	normal			
Vitamin B6	average			
Vitamin D	increased			

Your test results

AUTOIMMUNE DISEASES

Psoriasis

The analysis of genetic markers showed that your personal risk of developing psoriasis is 8.3 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

- Avoid triggers that can lead to the disease, such as stress, smoking and obesity

Rheumatoid Arthritis (RA)

The analysis of genetic markers showed that your personal risk of developing RA corresponds to the average risk in population. Even though you have the average genetic risk, you are advised to:

- Exercise regularly most days of the week
- Maintain a healthy weight level (BMI under 25)
- Avoid smoking
- Manage your stress

Systemic Lupus Erythematosus (SLE)

The analysis of genetic markers showed that your personal risk of developing SLE is 1.7 times higher than the average risk in population. To reduce the risk, you are strongly recommended to:

- Avoid triggers that can lead to the disease, such as chemical exposure, overexposure to ultraviolet light, infections (parvovirus, hepatitis C), and smoking
- Have regular physical check-ups

EYE DISEASES

Primary Open Angle Glaucoma (POAG)

The analysis of genetic markers showed that your personal risk of developing POAG corresponds to the average risk in population. Even though you have the average genetic risk, you are advised to:

- Keep healthy diet with enough vitamins and nutrients
- Avoid large amounts of caffeine
- Drink a stable amount of liquid
- Have your intraocular pressure measured on a regular basis

Exfoliation Glaucoma

The analysis of genetic markers showed that your personal risk of developing exfoliation glaucoma is 1.37 times higher than the average risk in population. To reduce the risk you are strongly recommended to:

- Keep healthy diet with enough vitamins and nutrients
- Avoid large amounts of caffeine
- Drink a stable amount of liquid
- Have your vision examined by ophthalmologist every year or according to doctor's recommendation

CARDIOVASCULAR DISEASES

Atrial Fibrillation (AF)

The analysis of genetic markers showed that your personal risk of developing AF is 1.2 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

- Eat heart-healthy foods (low in salt, saturated fat, rich in vegetables, fruits and whole grains)
- Do some physical activity every day
- Maintain a healthy weight (BMI below 25)
- Limit alcohol use and avoid smoking

Coronary Artery Disease (CAD)

The analysis of genetic markers showed that your personal risk of developing CAD is 2.9 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

- Keep your BMI below 25
- Avoid smoking
- Have your blood tested for cholesterol (LDL, HDL, total cholesterol) and triglycerides level on a regular basis
- Avoid stress

Intracranial Aneurysm (IA)

The analysis of genetic markers showed that your personal risk of developing IA is 1.2 times lower than the average risk in population. Even though you have the average genetic risk, you are advised to:

- Avoid triggers that can lead to the disease, such as smoking, alcohol and drug abuse
- Eat properly and exercise regularly
- Have regular physical check-ups

Peripheral Arterial Disease (PAD)

The analysis of genetic markers showed that your personal risk of developing PAD is 1.1 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

- Avoid active and passive smoking
- Eat a healthy, balanced diet (keep your BMI < 25)
- Do regular daily exercise

Venous Thrombembolism (VTE)

The analysis of genetic markers showed that your personal risk of developing VTE is 1.2 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

- Keep your BMI below 25
- Drink enough water
- Avoid smoking
- Perform regular moderate exercise

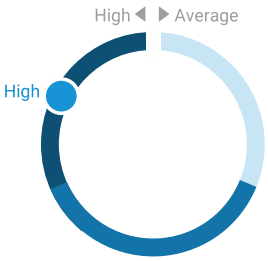
ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES

Celiac Disease (CD)

The analysis of genetic markers showed that your personal risk of developing CD is low. Even though your genetic risk is low, you are advised to:

- Avoid triggers that can lead to the disease, such as severe stress, physical injury or infection

Folate Metabolism (FM)



The analysis of genetic markers showed that your personal risk of developing FM-associated diseases is significantly higher than the average risk in population. Detected AA genotype provide ~30% of the expected MTHFR enzyme activity, compared to the most common genotype GG, which explain normal (100%) enzyme activity. To reduce the risk you are strongly recommended to:

- Limit methionine-rich food (brazil nuts, meat, cheese)
- Eat food rich in vitamin B complex
- Consult your doctor about additional folic acid intake and co-administration with vitamin C, B12, B1, B2 and B6

Gallstone Disease (GSD)

The analysis of genetic markers showed that your personal risk of developing GSD is 1.2 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

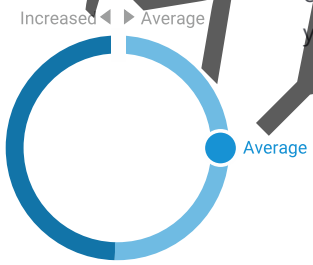
- Drink enough water
- Avoid high saturated fat consumption and excessive dietary fiber intake
- If you plan to lose weight, do it slowly (no more than 2 pounds (0,5-1 kg) per week)

Graves' Disease (GD)

The analysis of genetic markers showed that your personal risk of developing GD is 10.9 times higher than the average risk in population. To reduce the risk you are strongly recommended to:

- Avoid triggers that can lead to the disease, such as smoking and stress
- Check your thyroid hormone levels regularly

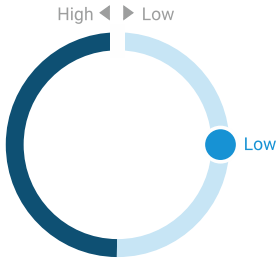
Higher Sugar Consumption



The analysis of genetic markers showed that your genotype indicates an average consumption of sweet food products. To avoid over-consumption of sweet food products you are recommended to:

- Avoid ready-made sweet food products
- Replace sweetened products with products made from natural ingredients
- Avoid consuming soft drinks, sweetened canned juice, vitamin water drinks and energy drinks

Lactose Intolerance (LI)



The analysis of genetic markers showed that your personal risk of developing adult-type LI is low. Please note that these results do not eliminate the possibility of secondary lactose intolerance.

Obesity

The analysis of genetic markers showed that your personal risk of developing obesity is 1.1 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

- Eat fresh and healthy food
- Avoid fast food
- Do at least 30 min of regular physical exercise daily

Type 1 Diabetes (T1D)

The analysis of genetic markers showed that your personal risk of developing T1D is 8.43 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

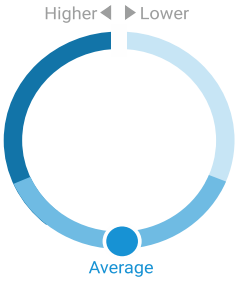
- Ensure pre- and probiotic intake in your diet to maintain normal microbiota

Type 2 Diabetes (T2D)

The analysis of genetic markers showed that your personal risk of developing T2D is 1.9 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

- Keep your BMI below 25
- Follow healthy diet
- Do at least 30 to 60 min of daily physical activity

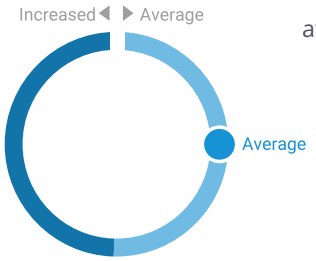
Vitamin B12 metabolism



The analysis of genetic markers showed that your personal risk of developing vitamin B12 deficiency is average. Even though your genetic risk is average, you are advised to:

- Ensure a vitamin B12-rich diet (or use supplement if vegan)
- Avoid smoking and consume alcohol in moderation
- Limit caffeine intake

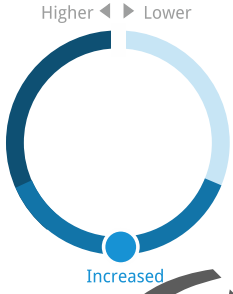
Vitamin B6 metabolism



The analysis of genetic markers showed that your personal risk of developing vitamin B6 deficiency corresponds to the average risk in population. Even though you have the average genetic risk, you are advised to:

- Ensure your diet is rich in vitamin B6
- Avoid smoking and consume alcohol in moderation
- Limit caffeine intake

Vitamin D metabolism



The analysis of genetic markers showed that your personal risk of developing vitamin D deficiency is moderately higher than the average risk in the population. To reduce the risk you are recommended to:

- Eat vitamin D rich food (eggs, oily fish, yoghurt)
- Ensure sufficient exposure to sunlight (to face and arms for 30 min/daily)
- Check your vitamin D levels regularly
- Ask your doctor about your vitamin D intake

NEUROLOGICAL DISEASES

Alzheimer Disease (AD)

The analysis of genetic markers showed that your personal risk of developing AD corresponds to the average risk in population. Even though your genetic risk is average, you are advised to:

- Get regular daily exercise
- Ensure sufficient vitamins and antioxidants in your diet
- Avoid smoking
- Get enough decent sleep
- Keep active and mentally stimulated

Migraine with aura (MA)

The analysis of genetic markers showed that your personal risk of developing MA is 1.2 times higher than the average risk in population. To reduce the risk you are strongly recommended to:

- Avoid triggers that can lead to the disease, such as smoking, alcohol, stress, anxiety, lack of food and sleep
- Have regular physical check-ups

Multiple Sclerosis (MS)

The analysis of genetic markers showed that your personal risk of developing MS is 1.9 times higher than the average risk in population. To reduce the risk you are strongly recommended to:

- Avoid triggers that can lead to this disease, such as smoking
- Relieve stress
- Eat a balanced diet and exercise regularly
- Avoid underexposure to sunlight

ONCOLOGICAL DISEASES

Basal Cell Carcinoma (BCC)

The analysis of genetic markers showed that your personal risk of developing BCC is 1.1 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

- Use at least SPF 15 suncream
- Avoid tanning lamps and beds
- Check your skin regularly, and consult your doctor about changes

Bladder Cancer

The analysis of genetic markers showed that your personal risk of developing bladder cancer corresponds to the average risk in population. Even though you have the average genetic risk, you are advised to:

- Avoid active and passive smoking
- Avoid chemical exposure
- Drink water throughout the day
- Keep an eye on your urination procedures
- Have regular physical check-ups

Male Breast Cancer (MBC)

The analysis of genetic markers showed that your personal risk of developing MBC is 1.4 times lower than the average risk in population. Even though you have the lower genetic risk, you are advised to:

- Do regular exercise most days of the week
- Choose a healthy diet to maintain normal weight
- Drink alcohol in moderation, if at all
- Have regular physical check-ups

Colorectal Cancer (CC)

The analysis of genetic markers showed that your personal risk of developing CC is 1.3 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

- Eat a variety of vegetables, fruits and whole grains
- Avoid smoking and drink alcohol in moderation, if at all
- Exercise most days of the week

Gastric Cancer (GC)

The analysis of genetic markers showed that your personal risk of developing GC is 1.4 times higher than the average risk in population. To reduce the risk you are strongly recommended to:

- Reduce salted, pickled or smoked food in your diet
- Eat a wide variety of vegetables and fruits
- Avoid smoking
- Consult your doctor for periodic health screenings

Lung Cancer (LC)

The analysis of genetic markers showed that your personal risk of developing LC is 1.7 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

- Avoid triggers that can lead to the disease, such as smoking and exposure to other chemicals (arsenic, asbestos, silica)
- Test your home for radon
- Ensure healthy diet rich in vegetables and fruits

Melanoma

The analysis of genetic markers showed that your personal risk of developing melanoma is 1.4 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

- Use at least SPF 15 sunscreen
- Avoid tanning lamps and beds
- Check your skin regularly, consult your doctor about changes

Prostate Cancer (PC)

The analysis of genetic markers showed that your personal risk of developing PC corresponds to the average risk in population. Even though you have the average genetic risk, you are advised to:

- Exercise regularly most days of the week
- Eat a diet rich in vegetables and fruits
- Add foods containing phytoestrogens to your diet (tofu, soymilk, soybeans)
- Avoid smoking

OTHER CONDITIONS

Osteoporosis

The analysis of genetic markers showed that your personal risk of developing osteoporosis corresponds to the average risk in population. Even though you have the average risk, you are advised to:

- Exercise regularly
- Include foods rich in calcium and vitamin D in your diet
- Avoid smoking and alcohol

Male Pattern Baldness (MPB)

The analysis of genetic markers showed that your personal risk of developing MPB is 4.4 times lower than the average risk in population. Even though your genetic risk is low, you are advised to:

- Avoid stress
- Ensure sufficient dietary nutrient intake

Overview of the Diseases

Alzheimer disease (AD) is the most common cause (70%) of dementia worldwide, characterized by a progressive decline in cognitive function, such as memory loss and changes in behavior. It is a chronic disease with progressive degeneration of brain cells and cell connections, causing a deterioration in mental function. The incidence rate for AD in European and American populations increases exponentially with age, especially at 70-80 years of age. Late onset AD (65 years) is accounting for >95% of all cases. Late onset heritability is 33% and affects men and women equally. Although current treatment of AD with medications can't stop the disease's progression, it helps lessen symptoms for a limited time. Creating a supportive environment for a person with AD is important.

AD risk factors: Older age / Family history / Gender (female) / Hemorrhagic and large ischemic cortical infarcts / White matter infarcts / Traumatic brain injury / Hypertension / T2D / Elevated cholesterol level and dyslipidemia / Metabolic syndrome / Smoking / Lack of exercise / Social inactiveness and low mental activity.

Atrial fibrillation (AF) is the most common cardiac arrhythmia, characterized by absence of coordinated atrial contractions. In the case of AF, the heart rate rises to 180 beats (normal rate 60-80) per minute, lasting from seconds to days. Symptoms include shortness of breath and weakness. AF affects nearly 1% of population, prevalence is 1.5 times higher among men. For treatment, electrical cardioversion or anti-arrhythmic medications are used. If the medications are not working, catheter or surgical procedures are applied.

AF Risk factors: Older age / High blood pressure / Coronary heart disease / Heart failure / Rheumatic heart disease / Myocardial infarction / Heart valve defects / Pericarditis / Congenital heart defects / Hyperthyroidism, sleep apnea, metabolic syndrome, chronic kidney and lung diseases / Alcohol use / Obesity / Family history.

Basal cell carcinoma (BCC), the most common type of skin cancer, is characterized by slow growth, localization and very rare metastatic rate, less than 0.1%.

Various epidemiological studies have found sun exposure as the main environmental trigger of BCC. Incidence rate of BCC is higher in places with increased sun exposure level, e.g. equator and northern territories of Australia. Sun exposure (UV light) is associated with cancer due the ability of UV radiation to induce direct mutations of DNA. According to the population-based analyses, estimated genetic factors account for 7.7%. Mortality of BCC is low, but the malignancy of disorder is associated with lifetime healthcare costs. Treatment depends of the size, type, depth and location of the cancer and may include freezing, surgery, cryotherapy, chemotherapy, radiation therapy, photodynamic therapy etc.

BCC risk factors: Excessive sun exposure / Tanning devices / Fair skin, light hair and eye color / Older age / Viral infections / Immunosuppression / Psoriasis treated with psoralen + UVA Radiotherapy.

Bladder cancer affects people mostly after the age of 40; the median age at diagnosis is 73 years. The disorder occurs 3-4 times more often in men than in women. Estimated heritability for bladder cancer is 31%. Bladder cancer can be characterized by non-muscle invasive lesions (60%) and aggressive muscle-invasive lesions (40%) that are mostly associated with high mortality rate. There are few symptoms to detect this disorder: increased frequency of urination, pain or burring during urination, blood in the urine, and being unable to urinate. The efficacy of treatment depends on the clinical stage and associated risk factors. Treatment options may include surgery, immunotherapy, chemotherapy and radiation therapy.

Bladder cancer risk factors: Smoking / Gender (male) / Race (Caucasian) / Environmental toxins (arsenic, aromatic amines) / Previous cancer treatment (cyclophosphamide) / Certain diabetes medications (pioglitazone, metformin) / Chronic bladder inflammation / Family history of Lynch syndrome.

Celiac Disease (CD) is chronic systemic autoimmune disease with a very strong genetic component. The heritability of CD is estimated to be 31%. Intake of gluten (protein found in wheat, rye and barley) for people with CD causes damage in the small intestine and nutrients are not properly absorbed. In general, it is estimated that 1% of general population has CD, with a rate twice as high in females. Recent studies have shown the role of the human microbiome in formation of this disease. CD may be triggered by severe stress, physical injury and infection. Adult occurrences of CD are more common than pediatric cases. The typical symptoms in children appear at age under 2 years with malabsorption and poor growth. A gluten-free diet is the only available and effective CD treatment. For severe small intestine damage, medication may be prescribed.

CD risk factors: 1st and 2nd degree relative with celiac disease / Type 1 diabetes / Down syndrome or Turner syndrome / Autoimmune thyroid disease / Liver diseases / Rheumatoid arthritis.

Colorectal cancer (CC), also known as colon cancer, occurs when cancer cells form in the tissue of colon. CC is one of a major causes of mortality worldwide, accounting for 9% of all cancer incidences. It affects men and women equally and is mainly a disease of developed countries. The estimated heritability of CC is 65%. CC survival chance is highly dependent on the stage of diagnosis. CC mostly begins with formulation of noncancerous clumps of cells, called adenomatous polyps, which may turn to cancer during the latency period. Polyps treatment is one of the most important CC preventions. CC has a lot of environmental risks that can be regulated, helping to prevent cancer.

CC risk factors: Older age / Adenomatous polyps / Family history / Inherited syndromes (Lynch syndrome, familial adenomatous polyposis) / Inflammatory bowel disease (Crohn disease and colitis) / Race (African-Americans) / Diet high in fat and red meat, low in fiber / Obesity / Smoking / Alcohol abuse.

Coronary artery disease (CAD) is a group of diseases such as stable and unstable angina, myocardial infarction and arteriosclerosis. CAD is the main cause of death and disability worldwide and represents a complex disease with both genetic and environmental determinants. CAD is a result of plaque buildup in a person's arteries blocking blood flow that transports oxygen and vital nutrients necessary for proper functioning of the heart. Heritability factors for CAD risk account for 30–60% of the inter-individual variation. Prevention of CAD involves a combination of lifestyle factors and physiological parameters, often combined with medications. In case of treatment medications play a central role in reducing mortality in patients with CAD.

CAD risk factors: Older age / Gender (male) / Smoking / Diabetes status / Angina or heart attack in a 1st degree relative < 60 / Chronic kidney disease / Atrial fibrillation / Blood pressure treatment / Rheumatoid arthritis / HDL level / BMI.

Exfoliation glaucoma disease occurs in eyes with exfoliation syndrome (XFS). XFS is a disease in which the abnormal deposition of fibrillar extracellular material occurs in many ocular tissues. Patients with XFS have an increased risk of developing an additional angle-closure glaucoma. Exfoliation glaucoma caused by XFS has a worse prognosis compared to primary glaucoma and requires more serious clinical treatment. Exfoliation glaucoma occurs worldwide and is strongly associated with elevated intraocular blood pressure and age. The highest prevalence is in the age group 70 and over. Recent studies have shown that glaucomas and XFS are often aspects of systemic conditions rather than isolated eye diseases. Topical medications for treatment tend to be less effective, laser therapy is frequently used. If adequate control is still not achieved, a guarded filtration may be performed.

Exfoliation glaucoma risk factors: Older age / Elevated intraocular pressure / Northern European ethnicities / Family history of glaucoma / Type 2 diabetes / Hypothyroidism / Corticosteroids use.

Folate (vitamin B9) plays an important role in DNA synthesis. Disturbed folate metabolism (FM) is implicated in many different diseases, including congenital birth defects, late pregnancy complications, Down syndrome, psychiatric disorders, osteoporosis and cancer. Folate is an important nutrient for a healthy pregnancy. Population-based studies in Caucasians have estimated 17% heritability effect for folate metabolism. The recommended daily intake is 400 microgram (mcg) and up to 600 microgram (mcg) for women who are pregnant or planning a pregnancy. The primary dietary source of folate are green vegetables, beans and liver.

FM disorder risk factors: Family history.

Gallstone disease (GSD) is caused by crystallized and hardened bile components in the gallbladder leading to gallstones. 80% of gallstones are made of cholesterol and the other 20% of calcium salts and bilirubin. GSD is one of the most frequent health problems, affecting 10–15% of the adults. GSD has been rare in childhood, but has become increasingly recognized with the prevalence of obesity in late teenager years. GSD is detected by abdominal ultrasound. Gallstones should be treated only if they cause symptoms. 80% of people with gallstones do not have any pain at all. Common symptoms are abdominal pain, fever, nausea or vomiting, clay-colored stools, a yellowish tint in skin or eyes. Treatment options include laparoscopic gallbladder removal and medications to dissolve the gallstones.

GSD risk factors: Gender (female) / Age (60 or older) / Ethnicity and race (Northern Europeans, American Indians) / Pregnancy / Family history / Certain cholesterol medications / Overweight or obesity / Rapid weight loss / High fat or cholesterol diet / Excessive dietary fiber intake / Diabetes.

Gastric cancer (GC) is the fifth most common cancer worldwide and is more common in Asia, South America and Eastern Europe. The disorder occurs up to 2.5 times more often in men than in women. GC is rarely found in patients younger than 40 years. Most GCs occur sporadically, whereas 8% to 10% has an inherited familial component. GC often produces no specific symptoms and therefore diagnosis is often delayed. Patients may exhibit anorexia and weight loss (95%) as well as abdominal pain that is vague and insidious in nature. GC is highly preventable by avoiding smoking and keeping a healthy lifestyle. Treatment depends on the stage of GC and overall health condition and may include surgery, radiation therapy, chemotherapy and targeted drugs.

GC risk factors: Older age / Gender (male) / Helicobacter pylori infections / Diet high in salted, pickled or smoked food / Eating foods contaminated with aflatoxin-producing fungi / Type A blood / Pernicious anemia / Family history / Smoking / Obesity / Lynch syndrome / Asbestos exposure.

Graves' disease (GD) is an autoimmune disease and the most common cause of hyperthyroidism, when thyroid glands make more thyroid hormone that the body needs. As a result, patient may have muscle weakness, sleep disorders, fast heartbeat, diarrhea and eye problems such as bulging. According to population-based studies, estimated heritability is 40% to 50%. Women, especially in reproductive age, have a disease incidence several times higher than men. The current treatment of GD restores thyroid levels effectively, but has serious side effects. Possible treatments include medication (anti-thyroid, radioiodine) and surgery.

GD risk factors: Family history / Gender and age (female under 40) / Autoimmune diseases / Stress / Smoking / Immune modulators / Pregnancy (genetically susceptible women).

Higher consumption of sweet food products, such as baked goods, candies, sweetened dairy products, chocolate and sweetened soft beverages has a strong association with overweight and obesity, risk of diabetes, fractures, and dental caries. Sweet food products may lead to weight gain through high added-sugar content, low satiety, and incomplete compensation for total energy. Studies have shown that higher sweet food intake is partly determined by genes.

Higher sugar consumption risk factors: Family lifestyle / Genetic predisposition / Unhealthy diet / Psychological and social issues.

Intracranial aneurysm (IA) is characterized by weakness in the wall of a cerebral artery causing ballooning of the blood vessels in the brain with devastating consequences. The incidence of IA is 5% to 10% worldwide and disease is 1.24-1.6 times more common in women than in men. Optimal treatment for IA takes into account both physiological and individual factors, such as vessels' localization, their size and morphology, presence of thrombus, age, medical history, family history and the overall health of a patient. IA prevention must be applied in individuals with two or more affected first-degree relatives.

IA risk factors: Aging Gender (female) / Smoking / Hypertension / Atherosclerosis / Alcohol and drug abuse (cocaine) / Head injury / Estrogen deficiency in menopause / Arteriovenous malformation / Carotid artery stenosis / Autosomal dominant polycystic kidney disease / Marfan syndrome / Ehlers-Danlos syndrome / Neurofibromatosis / Family history.

Lactose intolerance (LI) is a widespread metabolic disorder caused by the inability to digest lactose due to a shortage of the lactase enzyme. Lactase activity is high during infancy, when milk is the main source of nutrition, and declines after the weaning phase in most mammals. Approximately 75% of the world's population loses the ability to digest lactose. The prevalence of adult-type lactose intolerance varies depending on ethnicity, from less than 5% in northwestern Europe to almost 100% in some Asian populations. Clinical symptoms of LI usually begin 30 minutes to 2 hours after eating or drinking foods that contain lactose, such as dairy products. The severity of symptoms varies, depending on the amount of lactose each individual can tolerate. It is important to distinguish LI from other conditions, for example irritable bowel syndrome, which has very similar symptoms. Treatment for lactose intolerance includes a lactose-restricted diet.

LI risk factors: Increasing age / Ethnicity and race (Southern Europeans, Asians) / *LCT* gene polymorphism -13910 GG genotype.

Lung cancer (LC) occurs when cancer cells form in the cells lining the air passages in lungs. LC remains the leading cause of cancer death in both men and women worldwide. The heritability of lung cancer has been clearly established and account for 8%. The most important environmental factor that causes the LC is exposure to tobacco smoke through both active and passive smoking (85% of all cases). The disease affects women over 60 years twice more than men. To date, quitting smoking has been shown to reduce the risk of LC. Treatment options include surgery, chemotherapy, radiation therapy, targeted drug therapy.

LC risk factors: Smoking / Passive smoking / Exposure to radon gas / Biomass fuels / Coal burning / Exposure to arsenic, asbestos, silica / Solid fuels while cooking and heating (formaldehyde and benzene) / Gender (female).

Male breast cancer (MBC) is a rare disorder with a reported frequency of less than 1% worldwide. Men at any age may develop breast cancer, but it is mostly detected in men 60-70 years of age. MBC is highly associated with the estrogen hormone. With ageing, a significant proportion of male estrogens degenerate while aromatase activity turns higher, providing a direct source of oncogenic stimuli. The estimated heritability of MBC is up to 10%. Symptoms of MBC are similar to the female BC and can be diagnosed after discovering a lump beneath the nipple. Treatment depends on the type and stage of cancer and overall health condition. Surgery is the most common initial treatment, chemotherapy, radiation therapy and hormonal therapy may be also considered.

MBC risk factors: Radiation therapy / Family history of breast cancer / Diseases linked to elevated estrogen levels (Klinefelter syndrome, liver cirrhosis) / Estrogen intake (prostate cancer treatment) or hormone manipulation (sex change procedures) / Testicular damage / Obesity.

Male Pattern Baldness (MPB), or male pattern alopecia, is the most common cause of hair loss in men, characterized by widespread type of gradual hair loss from the scalp. MPB could be caused by mutations in genes controlling hair follicle development. Hair follicle is sensitive to circulating androgens (steroid hormones), resulting in shorter and thinner hair. Estimated heritability of MPB is ca 80%. Adult men who have close relatives on the maternal side with MBP, have the highest risk of disorder. There is no known way to prevent baldness. Medications are one of the treatment options, but these work best for people with less hair loss. Wigs and hairpieces are alternatively used for medical treatment or in case a person does not respond to treatment.

MBP risk factors: Race (Caucasians and Mongolians) / Prostatic hypertrophy / Family history (maternal side) / Thyroid conditions / Use of anabolic steroids / Chronic kidney failure / Vitamin A overdose / Iron deficiency.

Melanoma is the most serious type of skin cancer, affecting melanocytes (cells producing skin pigment melanin). Melanoma may also occur in eyes, and rarely in intestines. Although it accounts for only 4% of all skin cancer types, it causes 80% of skin cancer deaths. If the condition is recognized and treated early, it is almost always curable. There is a broad spectrum of protection strategies. Doctors recommend sun avoidance between 10 am and 4 pm. When sun cannot be avoided, use sun protective clothing and sunscreens with SPF of 15 and higher. Total avoidance of artificial UV sources is highly advised. Treatment depends on the size, stage and location of cancer. Early stage melanoma is removed by biopsy; for spreading melanoma, surgery is used to remove affected lymph nodes. Chemotherapy, radiation therapy, biological therapy and targeted therapy may be also used.

Melanoma risk factors: Sunlight overexposure / Tanning devices / Gender and age (female under 40, male over 40) / Family history / Melanocytic nevi (unusual moles).

Migraine with aura (MA), a subtype of migraine, is a chronic neurological and sometimes progressive disorder that is characterized by recurrent episodes of headache and associated conditions, such as vomiting and sensitivity to light, smells, and sounds. Aura symptoms, usually visual, precede the headache. During the migraine attack blood vessels dilate in the brain, causing pain for 2 to 72 hours. Heritability of different migraine types is estimated to be 34–51%. Migraine can occur in any period of life, affecting women 2-3 times more than men. Migraine treatment involves acute and preventive therapy. Patient with migraine should be screened for cardiovascular traits, which should be treated first, then consulted by both neurologist and neurosurgeon. Prevention of migraine involves the combination of lifestyle factors and medications. Pain relieving medications play essential role in treatment.

MA risk factors: Family history / Gender (female) / Oral contraceptives / Hormonal changes.

Multiple sclerosis (MS) is a complex condition caused by many contributing factors, such as environmental, behavioral and genetic factors. In MS, the immune system attacks and damages myelin, the protective sheath of the nerve fibers. The disorder affects the brain, spinal cord and optic nerve in eyes. Occurrence is 2-3 times higher in women than in men. The estimates for heritability of MS cover a wide range from 25% to 76%. Medication used for MS treatment is aimed at modification of the course of the disease, treating relapses and managing symptoms. Physical therapy and relaxation are used to support overall health condition.

MS risk factors: Underexposure to sunlight / Vitamin D deficiency / Latitude (Europe, North America, Australia, New Zealand and Japan) / Epstein-Barr virus / Northern European descent / Smoking.

Overweight and obesity can be easily defined by calculation of Body Mass Index (BMI). BMI is the weight in kilograms divided by the height in meters squared (kg/m2). According to the WHO, being overweight is defined as having a BMI between 25.0 and 29.9, and obesity as having a BMI greater than 30.0. At an individual level, obesity occurs when increased amount of triglycerides are stored in adipose tissue and released later as free fatty acids, causing detrimental effects. Studies estimate heritability of overweight and obesity to be 40%-70%, but the primary mechanism of obesity is permanent calorie imbalance: high caloric food intake with a sedentary lifestyle. Many studies have shown that increased BMI above 27 for both men and women increases mortality. On the other hand, a significantly low BMI in women indicates malnutrition and also leads to osteopenia, osteoporosis and increases the risk of premature childbirth.

Obesity risk factors: Family lifestyle / Genetics / Inactivity / Unhealthy diet / Cushing´s syndrome / Prader-Willi syndrome / Psychological and social issues.

Osteoporosis is a multifactorial disease in which the density and quality of bones are reduced making them fragile and more likely to break. The most common fractures associated with osteoporosis occur at the hip, spine and wrist. Globally, 1 in 3 women and 1 in 5 men are at risk of an osteoporotic fracture. The measurement of bone mineral density (BMD) is a major predictor of osteoporotic fractures. Although BMD is highly heritable, only a few genes with modest effects on the risk of developing osteoporosis have so far been discovered. Treatment for osteoporosis is based on treating and preventing fractures and using medications, healthy diet and exercises to strengthen bones.

Osteoporosis risk factors: Gender (postmenopausal female) / Age (50 and older) / Race (Caucasians, Asians) / Family history / Inflammatory conditions / Hyperthyroidism/Hyperparathyroidism / Calcium deficient diet / Low body weight / Sedentary lifestyle / Long-term use of some medications (oral prednisolone) / Excessive alcohol use / Smoking.

Peripheral arterial disease (PAD) occurs when plaque, formed from fat, cholesterol, calcium, fibrous tissue and other substances in the blood, builds up in the walls of the arteries, causing problems with heart, brain and other organs. To date, this disorder is often underdiagnosed, poorly understood, and much more common than was expected a few years ago. It is estimated that ca. 12% of the adult population worldwide has PAD and this disease affects men and women equally. PAD may be asymptomatic or have various symptoms such as rest pain, ischemic ulcers, gangrene, atypical leg pain. Studies have demonstrated 58% of genetic heritability of PAD. There are several ways to treat PAD, such as smoking cessation, lipid-lowering therapy, hypertension management and antithrombotic therapy.

PAD risk factors: Smoking / Older age / Diabetes / Hypertension / Hyperlipidemia / Obesity / Metabolic syndrome / Chronic kidney disease.

Primary open-angle glaucoma (POAG) is characterized by elevated intraocular pressure and progressive peripheral vision loss due to optic nerve damage. The disease is more prevalent and more difficult to control in African-Americans than in Europeans. In Europe glaucoma affects 1% to 2% of people aged over 50. Glaucoma is the second leading cause of blindness in the world. Typical symptoms of POAG are eye pain, blurred vision, halos around lights and tunnel vision with gradual loss of peripheral vision in the later stages. Early diagnosis can minimize and prevent optical nerve damage. Medicated eye-drops are used to lower intraocular pressure. If the medications are ineffective or not tolerated, certain types of surgeries may be performed.

POAG risk factors: Older age / Race (Caucasian, African-American) / Myopia / Elevated intraocular pressure / Family history of glaucoma / Type 2 diabetes / Hypothyroidism / Corticosteroids use / Pseudoexfoliation / Cardiovascular disease.

Prostate cancer (PC) is mainly localized in the male prostate (gland that produces seminal fluid). Early detection of PC may allow a better chance for successful treatment. Incidence of PC is increased in industrialized countries and accounts for 9.7% of all cancers in men worldwide (15.3% in developed and 4.3% in developing countries). The mean age of patients with PC is 72-74 years. PC has a long latency period, varying from 5 to 15 years. Population-wide studies have estimated that heritability of PC is 43%. Studies of 40 populations have shown that PC is positively associated with diets that include a high intake of fat, red meat and dairy products. Treatment options include radiation therapy, hormonal treatment, surgery, cryosurgery, chemotherapy. For a very early stage and asymptomatic PC, the immediate treatment may not be needed; regular follow-ups are recommended to monitor PC progression.

PC risk factors: Older age / Race (African American) / Family history of prostate or breast cancer / T2D / Smoking.

Psoriasis is the common chronic inflammatory disorder that affects skin or joints or both. Under psoriasis the immune system sends signals to the skin cells to grow faster than normal resulting in the formation of itchy, dry, red patches. Genetic heredity accounts for 50% for all five types of psoriasis. The prevalence varies from 0.91% in Southern Europe to 8.5% in Nordic countries. Psoriasis is prevalent equally for both sexes. The diagnosis is usually based on clinical findings and the skin biopsy is rarely needed. To date, psoriasis has no known way of prevention and treatment, but many therapies can reduce or nearly stop the symptoms.

Psoriasis risk factors: Family history / Smoking / Stress / Medications (β-blocking agents, angiotensin-converting enzyme inhibitors, and calcium channel blockers) / Alcohol intake / Obesity / Viral and bacterial infections.

Rheumatoid arthritis (RA) is an autoimmune inflammatory disease that predominantly affects joints that are lined with connective tissue responsible for maintaining nutrition and lubrication of the joint. RA leads to loss of joint function due to the loss of muscle around the affected joint, causing pain and swelling. The acute phase of the disease leads to cardiovascular disorders and other comorbidities. Heritability plays a substantial role; studies of Northen European populations suggest that genetic factors account about 50% of disease susceptibility. The worldwide incidence varies between 0.5% and 1%. RA treatment is symptomatic - medications are used to reduce inflammation and relieve pain in combination with physical and occupational therapy. The primary goal of the treatment is remission with no active joint inflammation. Surgery may be necessary if joints are severely damaged.

RA risk factors: Family history / Gender (female) / Age (mostly between 40- 60 years) / Smoking / Obesity

Systemic lupus erythematosus (SLE) is a chronic inflammatory autoimmune disease that affects connective tissue and may provide many internal and cutaneous findings. Autoimmune attacks occur in the heart, joints, lungs, liver, skin, blood vessels, kidneys etc. The estimated heritability of SLE disorder is 66%. The rate is 9 times higher in women than in men and the course of the disease is unpredictable. SLE is triggered by environmental factors in genetically predisposed people. SLE can be diagnosed by few symptoms, such as malar rash, photosensitivity, discoid skin rash, kidney abnormalities, blood-count abnormalities and brain irritation. The treatment is applied according to the personal features of a patient, such as symptoms, age, general health, and lifestyle.

SLE risk factors: Gender (female) / Age (between 15 and 45) / Ethnicity and race (African-Americans, Hispanics, Asians) / Family history.

Type 1 diabetes (T1D) is a chronic autoimmune disease, during which pancreatic cells, which store and produce insulin, are damaged, resulting in insulin deficiency and hyperglycemia. Both type 1 and type 2 diabetes result in high blood glucose levels causing serious health complications, including kidney failure, blindness, stroke and heart diseases. Heritability plays a substantial role and accounts for ca 50% of T1D. According to recent studies, consuming adequate amounts of vitamin D in young adulthood may decrease the risk of adult-onset T1D by as much as 50%. The primary treatment is based on the monitoring of blood sugar level; insulin injections are used every day to prevent long-term complications associated with the disease.

T1D risk factors: Family history / Viral infections / Lack of Vitamin D in young adulthood / Changes in the gut microbiota.

Type 2 diabetes (T2D), also called non-insulin diabetes is the most common type of diabetes. In case of this disease the body is still able to produce insulin. T2D is caused by a lack of insulin produced by the pancreas or incorrect use of insulin. This leads to a situation when glucose is not able to perform its function as an energy molecule. WHO estimated there are 285 million people with this disease, which is equivalent to about 6% of the adult population worldwide. Symptoms of T2D are increased hunger with weight loss, fatigue, blurred vision, areas of darkened skin, increased thirst and frequent urination. Early testing for T2D could lead to a better treatment and improvement of impaired glucose tolerance, resulting in a better outcome. For prevention and treatment of diabetes, it is essential to maintain weight by ensuring a healthy diet and good exercise habits. Treatment may include use of diabetes medications or insulin therapy.

T2D risk factors: Overweight / Insufficient physical activity / Family history of diabetes / High blood pressure / Increased waist circumference / Unhealthy diet / Ethnicity / Gestational diabetes.

Venous thromboembolism (VTE) is a term defining deep-vein thrombosis, pulmonary embolism, or both. VTE is characterized by blood clots in a vein, which can grow and dislocate. VTE is associated with morbidity and mortality. VTE affects 2% to 5% of the population. About 30% of surviving patients develop recurrent VTE within 10 years. The incidence of VTE differs by age, race and gender, with the higher prevalence in white men aged 45-79. To date, anticoagulant therapy is the main treatment for symptoms, also helping reduce recurrent VTE risk. One major side effect is increased risk of hemorrhage, which may be fatal in up to 25% of cases. For life-threatening situations, thrombolytics and surgical clot removal is used. Temporary inferior vein filters are used in patients with high risk of deep vein thrombosis.

VTE risk factors: Family history / Surgery / Trauma / Chronic disease / Obesity / Pregnancy / Oral contraceptives / Hormone replacement therapy / Cancer Immobility / Dehydration / Smoking.

Vitamin B12 is involved in DNA synthesis, neurological function, proper red blood cell formation, and also helps prevent homocysteine elevated levels (may lead to heart diseases). Deficiency is characterized by weakness, irritability, fatigue, poor memory, confusion, depression, and megaloblastic anemia. The best sources of vitamin B12 are beef liver, clams, salmon, sardines, and fortified cereals. Smoking, alcohol, caffeine, and long-term antibiotic use inhibit the absorption of vitamin B12. According to studies, the presence of certain genetic variants is associated with ca 16% lower vitamin B12 levels. A strict vegetarian diet will result in significantly lower levels of vitamin B12, and such individuals should be monitored carefully for the deficiency. Recommended Dietary Allowance (RDA) of vitamin B12 for adults is 0,003 – 0,004 mg/day.

Vitamin B12 deficiency risk factors: Pernicious anemia / Lack of intrinsic factor (important for absorption) / Genetic disorders that affect absorption.

Vitamin B6 carries an important role in the metabolism of amino acids, carbohydrates and lipids, as well as in biosynthesis of neurotransmitters and blood cells. Deficiency can result in anemia, scaling on the lips and cracking of the corners of mouth, neurological and immune system disorders, elevated homocysteine levels (may lead to heart diseases). The main sources of vitamin B6 are whole grains, liver, chickpeas, nuts, seeds etc. Smoking, alcohol and caffeine inhibit the absorption Vitamin B6. According to studies, the presence of certain genetic variants is associated with 12-18% lower vitamin B6 level. Sufficient vitamin B6 intake is particularly important for these individuals. Recommended Dietary Allowance (RDA) of vitamin B6 for adults is 1,9- 2,4 mg/day.

Vitamin B6 deficiency risk factors: Genetic predisposition / Kidney diseases / Malabsorption syndromes (celiac disease) / Heart failure / Liver cirrhosis / Thyroid problems / Alcoholism / Certain medications (antirheumatic, antiepileptic).

Vitamin D deficiency is a widespread problem affecting as many as one-half of otherwise healthy adults in developed countries. Vitamin D deficiency causes osteomalacia, childhood rickets, osteoporosis and fractures because of reduced calcium absorption. Other consequences of vitamin D deficiency include cardiovascular diseases, T1D and T2D, obesity, multiple sclerosis, asthma and cancers of breast, colon, and prostate. Vitamin D is produced mainly in the skin during exposure to sunlight. Although diet, intake of vitamin D supplements and exposure to sunlight are known to influence serum vitamin D concentrations, genetic factors may also contribute to variability in vitamin D level, with estimates of heritability ranging from 23-80%. The Recommended Dietary Allowance (RDA) for adults is 600 international units (IU) of vitamin D a day.

Vitamin D deficiency risk factors: Little sun exposure / Older age / Obesity / Genetic predisposition / Poor dietary intake of vitamin D.

Genetic Markers Information

Disease name	Gene name	SNP ID	PubMed reference	Genotype
Alzheimer disease	APOE	rs429358	23296339	TT
Alzheimer disease	APOE	rs7412	23296339	CC
Atrial fibrillation	4q25	rs10033464	17603472	GG
Atrial fibrillation	PITX2	rs2200733	17603472	CC
Basal cell carcinoma	Intergenic	rs801114	18849993	GT
Basal cell carcinoma	PADI6	rs7538876	18849993	AG
Bladder cancer	MYC	rs9642880	18794855	GT
Bladder cancer	TACC3	rs798766	20348956	CC
Breast cancer	ADAM29	rs10032806	29059683	GG
Breast cancer	BRCA1	rs386833395	24528374	AA
Breast cancer	BRCA1	rs80357711	24528374	TT
Breast cancer	BRCA1	rs80357906	24528374	AA
Breast cancer	BRCA2	rs80359550	25476495	TT
Breast cancer	CASC16	rs4784227	29059683	CC
Breast cancer	CDKN2B	rs3217992	29059683	TT
Breast cancer	CDYL2	rs2316184	29059683	AG
Breast cancer	EBF1	rs1432679	29059683	CT
Breast cancer	ELL	rs8105994	29059683	CC
Breast cancer	EMBP1	rs11249433	29059683	AA
Breast cancer	FGFR2	rs2981579	29059683	GG
Breast cancer	FTO	rs1558902	29059683	TT
Breast cancer	HNF4G	rs72658084	29059683	CC
Breast cancer	Intergenic	rs10759243	29059683	CC

Disease name	Gene name	SNP ID	PubMed reference	Genotype
Breast cancer	Intergenic	rs10941679	29059683	AA
Breast cancer	Intergenic	rs12711947	29059683	CC
Breast cancer	Intergenic	rs13365225	29059683	AG
Breast cancer	Intergenic	rs17356907	29059683	GG
Breast cancer	Intergenic	rs2403907	29059683	AC
Breast cancer	Intergenic	rs59957907	29059683	GG
Breast cancer	Intergenic	rs60954078	29059683	AA
Breast cancer	Intergenic	rs7297051	29059683	CT
Breast cancer	Intergenic	rs78540526	29059683	CC
Breast cancer	Intergenic	rs9693444	29059683	AC
Breast cancer	ITPR1	rs6787391	29059683	CT
Breast cancer	LOC101928278	rs4442975	29059683	GT
Breast cancer	LOC105370003	rs2454399	29059683	CT
Breast cancer	LOC105376214	rs7862747	29059683	CC
Breast cancer	LSP1	rs620315	29059683	AG
Breast cancer	MLLT10	rs7072776	29059683	GG
Breast cancer	MRTFA	rs6001930	29059683	CT
Breast cancer	NEK10	rs552647	29059683	AA
Breast cancer	PEX14	rs616488	29059683	AA
Breast cancer	RAD51B	rs11624333	29059683	TT
Breast cancer	STXBP4	rs2628315	29059683	AG
Breast cancer	TERT	rs2853669	29059683	AA
Breast cancer	TTC28	rs35313550	29059683	CC

Disease name	Gene name	SNP ID	PubMed reference	Genotype
Breast cancer	ZMIZ1	rs719338	29059683	GT
Breast cancer	ZNF365	rs10995190	29059683	AG
Celiac disease	HLA-DQA1	rs2187668	18509540; 29699404	CC
Celiac disease	HLA-DQB1	rs7775228	18509540; 29699404	TT
Celiac disease	HLA-DRA	rs2395182	18509540; 29699404	GT
Celiac disease	Intergenic	rs4713586	18509540; 29699404	AA
Celiac disease	Intergenic	rs7454108	18509540; 29699404	TT
Colorectal cancer	Intergenic	rs4779584	18084292	CC
Colorectal cancer	Intergenic	rs6983267	18268117	GT
Colorectal cancer	SMAD7	rs4464148	21075068	TT
Colorectal cancer	SMAD7	rs4939827	18372901	CT
Colorectal cancer	TCF7L2	rs7903146	18268068	CC
Coronary artery disease	CDKN2B-AS1	rs10757274	18066490	AA
Coronary artery disease	CDKN2B-AS1	rs2383206	18066490	AA
Coronary artery disease	CDKN2B-AS1	rs2383207	18066490	AA
Coronary artery disease	Intergenic	rs10757278	18066490	AA
Coronary artery disease	LPA	rs10455872	22560621	AA
Coronary artery disease	LPA	rs3798220	18775538	TT
Exfoliating glaucoma	LOXL1	rs3825942	20142848	GG
Folate metabolism	MTHFR	rs1801133	24091066	AA
Gallstone disease	ABCG8	rs11887534	17632509	GG
Gastric cancer	MTHFR	rs1801133	18162478	AA
Graves' disease	IL-23R	rs2201841	18073300	AA

Disease name	Gene name	SNP ID	PubMed reference	Genotype
Graves' disease	IL-23R	rs7530511	18073300	TT
Graves' disease	TNF-α	rs1800629	18472000	AG
Graves' disease	TNF-α	rs1800630	18472000	CC
Intracranial aneurysm	CDKN2A/CDKN2B	rs1333040	18997786	CT
Intracranial aneurysm	SOX17	rs10958409	18997786	GG
Lactose intolerance	MCM6	rs4988235	11788828	AG
Lung cancer	CHRNA3	rs1051730	24254305	GG
Lung cancer	CHRNA5	rs951266	18385739	GG
Lung cancer	HYKK	rs8034191	24254305	TT
Male breast cancer	CASC16	rs3803662	23001122	GG
Male breast cancer	RAD51B	rs1314913	23001122	CC
Male pattern baldness	HDAC9	rs2249817	22032556	AG
Male pattern baldness	Intergenic	rs2180439	18849994	CT
Male pattern baldness	Intergenic	rs2497938	22693459	CC
Male pattern baldness	Intergenic	rs6625163	18849991	GG
Male pattern baldness	LINC01432	rs1160312	18849991	GG
Melanoma	MC1R	rs1805007	16567973	CC
Migraine with aura	MTHFR	rs1801133	21635773	AA
Multiple sclerosis	HLA-DRA	rs3135388	19879194	AG
Multiple sclerosis	IL2RA	rs12722489	22117963	CC
Multiple sclerosis	IL7R	rs6897932	18721276	CC
Obesity	APOA2	rs5082	17446329	AG

Disease name	Gene name	SNP ID	PubMed reference	Genotype
Obesity	APOA5	rs662799	17211608	AA
Obesity	FTO	rs1121980	18159244	GG
Obesity	MC4R	rs17782313	18454148	CT
Obesity	MC4R	rs2229616	18239646	CC
Obesity	PCSK1	rs6232	1860420	CT
Osteoporosis	LRP5	rs3736228	18349089	CC
Osteoporosis	LRP5	rs4988321	18349089	GG
Peripheral arterial disease	CHRNA5	rs951266	18385739	GG
Primary open angle glaucoma	CAV1-CAV2	rs4236601	24034151	AG
Primary open angle glaucoma	SIX1	rs10483727	22570617	CT
Primary open angle glaucoma	TMCO1	rs4656461	21532571	AA
Prostate cancer	CASC17	rs1859962	18199855	GG
Prostate cancer	CASC8	rs1447295	17401363	CC
Prostate cancer	Intergenic	rs16901979	18231127	CC
Prostate cancer	Intergenic	rs6983267	18231127	GT
Psoriasis	intergenic	rs10484554	29589160	CC
Psoriasis	LCE3D	rs4112788	21400479	AG
Psoriasis	LINC02571	rs2894207	29589160	TT
Psoriasis	PSORS1C1	rs1062470	29589160	GG
Psoriasis	PSORS1C3	rs887466	29589160	GG
Psoriasis	TNF-α	rs1800629	17553030	AG
Psoriasis	TNF-α	rs361525	29389950	GG
Rheumatoid arthritis	Intergenic	rs6457617	17554300	CT

Disease name	Gene name	SNP ID	PubMed reference	Genotype
Rheumatoid arthritis	PTPN22	rs2476601	16490755	AG
Rheumatoid arthritis	STAT4	rs7574865	20169389	GG
Rheumatoid arthritis	TRAF1	rs3761847	17804836	AG
Sugar consumption	SLC2A2	rs5400	18349384	GG
Systemic lupus erythematosus	HLA-DQA1	rs2187668	17997607	CC
Systemic lupus erythematosus	IRF5	rs10488631	18063667	TT
Systemic lupus erythematosus	ITGAM	rs1143679	18204448	AG
Systemic lupus erythematosus	SKIV2L	rs419788	17997607	TT
Systemic lupus erythematosus	STAT4	rs7574865	20169389	GG
Systemic lupus erythematosus	TNF-a	rs1800629	16418737	AG
Type 1 diabetes	HLA-DQA1	rs9272346	17554300	GG
Type 1 diabetes	PTPN22	rs2476601	17554260	AG
Type 1 diabetes	STAT4	rs7574865	17554260	GG
Type 2 diabetes	CDKN2B	rs10811661	18368387	TT
Type 2 diabetes	FTO	rs9939609	17554300	TT
Type 2 diabetes	Intergenic	rs7923837	18231124	AA
Type 2 diabetes	Intergenic	rs9300039	17463248	CC
Type 2 diabetes	KCNJ11	rs5219	17977958	CC
Type 2 diabetes	PPARG	rs1801282	23874114	CG
Type 2 diabetes	SLC30A8	rs13266634	18437351	CC
Type 2 diabetes	TCF7L2	rs7903146	17977958	CC

Disease name	Gene name	SNP ID	PubMed reference	Genotype
Venous thromboembolism	F2	rs1799963	2170759	GG
Venous thromboembolism	F5	rs6025	2170759	CC
Vitamin B12	FUT2	rs492602	29445423	AG
Vitamin B12	FUT6	rs3760776	22367966	GG
Vitamin B12	MUT	rs9473555	19744961	CC
Vitamin B12	TCN1	rs526934	25948668	AG
Vitamin B12	TCN2	rs1131603	28334792	TT
Vitamin B12	TRDMT1	rs12780845	28334792	AG
Vitamin B6	ALPL	rs4654748	19303062	TT
Vitamin D	CYP2R1	rs10741657	24587115	GG
Vitamin D	CYP2R1	rs10766197	24587115	AA
Vitamin D	GC	rs4588	24587115	GT
Vitamin D	GC	rs842999	24587115	CG

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Glossary

Average Risk is the percent of people who develop the condition during their life. This is compiled from authoritative epidemiological reports in the medical literature. The figures are based on the total lifetime risk for that condition for your gender.

Your Risk is the probability you will develop the given condition and is calculated for you based on the genetic markers tested and the average population risk.

Your Genetic Risk is calculated based on the genetic markers tested. Genetic risk 1 is the average risk. Genetic risk less than 1 indicates that your risk is lower and more than 1 that your risk is higher than the population average.

Gene name is official symbol of the gene this genetic marker is located in. If the gene name is “intergenic”, it means genetic marker is located outside of a gene. (Intergenic- a region of DNA sequences located between genes).

Single Nucleotide polymorphism (SNP) is a specific variation in an individual’s DNA sequence. SNP ID is a number given to each SNP for easy identification. You can use this number to search for more information from public databases (HapMap or SNPedia) or from scientific articles (Pubmed).

Bone mineral density (BMD) shows the amount of minerals such as calcium in the bones.

Body mass index (BMI) is a person's weight in kilograms divided by the square of their height in meters. The BMI is an attempt to estimate the amount of body fat in an individual, and then categorize that person as underweight (below 18.5), normal or healthy weight (18.5 – 24.9), overweight (25 – 29.9), or obese (over 30) based on that value. BMI may not apply to athletes, because athletes may have a high muscle to fat ratio and may have a BMI that is misleadingly high relative to their body fat percentage.

Caucasian is an old racial definition based on a skull from the Caucasus mountains. Commonly used to characteristic of a race of humankind native to Europe, North Africa, and southwest Asia and classified according to physical features — used especially in referring to persons of European descent having usually light skin pigmentation.

European descent means individuals native to or derived from Europe.

Heritability describes the proportion of the genetic variance to the total variance. In other words, heritability attempts to identify how much genetics play a role in part of the population, for example being taller.

Population means a group of individuals that may be defined according to some shared characteristic, which may be social, cultural or physical (ethnic/racial subgroup).