

GeneWell

DNA test report

Name Surname
Sample Code 123456
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Introduction

GeneWell 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 GeneWell test is an excellent choice, designed to include valuable information on your genes in terms of 37 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 it is needed.

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.

How to read the report

Report Structure

We have developed the risk assessment system based on the latest scientific and medical knowledge available in the most respected scientific and medical journals. You can learn about your health risks, read about the conditions and learn basics of genetics in different sections of the report. Right after this instruction you will see a summary table where all diseases have been sorted based on your risk.

If you want to find out more about the risks the next section will contain more detailed results along with basic recommendations you can follow to reduce the disease risk. Those pages are followed by additional reading about the tested diseases.

Scientific information

In case you would like to learn about individual genetic markers genotyped for this report, you can do that in the scientific information section. Final pages of the report are dedicated for some interesting facts about genetics and the glossary.

Your Risk

Your risk is the likelihood you will develop the condition at some point of your lifetime. This takes into account the examined genetic markers and the population average lifetime risk for your gender.

Average Risk

You can compare yourself with the population average risk, which is shown in the second circle. All risks are calculated based on the data collected from individuals from caucasian ethnicity.

It is essential to understand that environmental factors such as smoking, diet, stress, physical activity are playing an important role in the development of the conditions. So in case your risk percentage is low it does not mean that you will never have the disease or in case of high risk you might never develop the disease in your lifetime.

Disclaimers

Assessing the disease risk, genetic information is one of the factors for developing the disease; environmental and lifestyle effects also play an important role. The total risk for developing the disease cannot be assessed based on the results of genetic testing. Increased risk for developing the disease does not necessarily mean getting the disease; whereas the disease may nevertheless 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 general population, which does not mean 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 subjected to change in the future due to the publication of new scientific investigations.

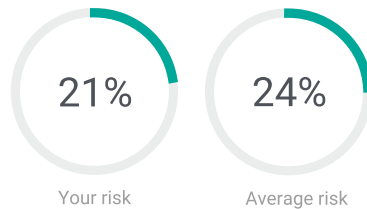
Summary

| Disease name | Your risk % | Average risk % |
|----------------------------------|-------------|----------------|
| Coronary heart disease | 21 | 24 |
| Open-angle glaucoma | 1.7 | 2.1 |
| Exfoliation glaucoma | 90 | 29 |
| Type 2 diabetes | 40 | 39 |
| Age related macular degeneration | XX | XX |
| Alopecia | XX | XX |
| Intracranial aneurysm | XX | XX |
| Atrial fibrillation | XX | XX |
| Basal cell carcinoma | XX | XX |
| Bladder cancer | XX | XX |
| Breast cancer | XX | XX |
| Celiac disease | XX | XX |
| Colorectal cancer | XX | XX |
| Lactose intolerance | XX | XX |
| Gastric cancer | XX | XX |
| Allergic asthma | XX | XX |
| Graves disease | XX | XX |
| Lung cancer | XX | XX |
| Lupus | XX | XX |

| Disease name | Your risk % | Average risk % |
|-----------------------------|-------------|----------------|
| Multiple sclerosis | XX | XX |
| Alzheimer's disease | XX | XX |
| Obesity | XX | XX |
| Gallstones | XX | XX |
| Peripheral arterial disease | XX | XX |
| Prostate cancer | XX | XX |
| Psoriasis | XX | XX |
| Rheumatoid arthritis | XX | XX |
| Melanoma | XX | XX |
| Type 1 diabetes | XX | XX |
| Migraine | XX | XX |
| Venous thromboembolism | XX | XX |
| Osteoporosis | XX | XX |
| Sugar consumption | XX | XX |
| Folate metabolism | XX | XX |
| Vitamin B6 metabolism | XX | XX |
| Vitamin B12 metabolism | XX | XX |
| Vitamin D metabolism | XX | XX |

Your test results

Coronary artery disease



According to the genetic markers tested your personal risk of developing coronary artery disease is 0.85 times lower than the average risk in European population. Please note that these results do not take into account non-genetic risk factors.

Even though your genetic risk is low, it is 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

Open-angle glaucoma

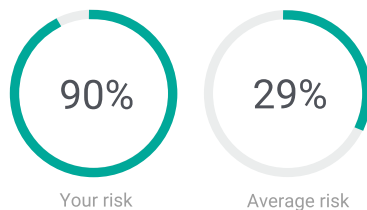


According to the genetic markers tested your personal risk of developing an open-angle glaucoma disease is 0.81 times lower than the average risk in European population. Please note that these results do not take into account non-genetic risk factors.

Even though your genetic risk is low, it is advised to:

- keep a healthy diet with enough vitamins and nutrients
- avoid high amounts of caffeine
- have your vision examined by a professional ophthalmologist on a regular basis, especially if you have one or more of the symptoms listed in the disease description

Exfoliation glaucoma



According to the genetic markers tested your personal risk of developing exfoliation glaucoma disease is 9.8 times higher than the average risk in European population. Please note that these results do not take into account non-genetic risk factors.

To reduce the risk it is strongly recommended:

- keep a healthy diet with enough vitamins and nutrients
- avoid high amounts of caffeine
- drink a stable amount of liquid
- have your vision examined by a professional ophthalmologist every year or according to doctor's recommendation

Type 2 diabetes



According to the genetic markers tested you have an average risk of developing type 2 diabetes that corresponds to the European population. Please note that these results do not take into account non-genetic risk factors.

To reduce the risk it is advised to:

- keep your BMI below 25
- follow healthy diet
- monitor your blood glucose level on a regular basis
- achieve 30 to 60 min of daily physical activity

About the diseases

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 the 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: Age / Sex / 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 an eye with exfoliation syndrome (XFS). XFS is a disease in which the abnormal deposition of fibrillar extracellular material occurs in many ocular tissues. It is the most common secondary glaucoma worldwide. Patients with the XFS have an increased risk of developing an additional angle-closure glaucoma. Exfoliation glaucoma caused by XFS has worse prognosis compared to primary glaucoma and requires more serious clinical treatment. Exfoliation glaucoma occurs worldwide and strongly associated with elevated intraocular blood pressure and age. The highest prevalence is in the age group of 70 and over. Recent studies have shown that glaucomas and XFS are often aspects of systemic conditions rather than isolated ocular disease. Topical medications for treatment tend to be less effective, laser therapy is frequently used. In case of 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.

Open-angle glaucoma is a disease characterized by elevated intraocular pressure and progressive peripheral vision loss due to the optic nerve damage. Disease is more pre-

valent and more difficult to control in African-Americans than in Europeans. In Europe glaucoma affects from 1% to 2% of people aged over 50 years. Glaucoma is the second leading cause of blindness in the world. Typical symptoms of open-angle glaucoma are eye pain, blurred vision, halos around lights and tunnel vision with gradual loss of peripheral vision in the latest stages. Open-angle glaucoma is also defined as a complex trait with several etiologies. Self-reported data represent that patients with disease have decreased quality of life and difficulties with daily functioning. Early diagnosis can minimize and prevent optical nerve damage. Medicated eye-drops are used to lower the intraocular pressure. In case the medications are ineffective or not tolerated, certain types of surgeries may be performed.

Open-angle glaucoma risk factors: Older age / Ethnicity (Caucasian, African-American) / Myopia / Elevated intraocular pressure / Family history of glaucoma / Type 2 diabetes / Hypothyroidism / Corticosteroids use / Pseudo-exfoliation / Cardiovascular disease.

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 pancreas or the 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 and increased thirst and frequent urination. Early testing for T2D could lead to a better treatment and impairing glucose intolerance, resulting in a better outcome. For prevention and treatment of diabetes is essential to maintain the weight control by ensuring healthy diet and good exercise habits. Treatment may include the use of diabetes medications or insulin therapy.

Type 2 diabetes risk factors: Overweight / Insufficient physical activity / Family history of diabetes / High blood pressure / Increased waist circumference / Unhealthy diet / Ethnicity / Gestational diabetes.

Scientific information

| SNP ID | Reference PMID | Your genotype |
|------------|----------------|---------------|
| rs10455872 | 22560621 | AA |
| rs10757274 | 18066490 | AG |
| rs10757278 | 18066490 | AG |
| rs2383206 | 18066490 | AG |
| rs2383207 | 18066490 | AG |
| rs3798220 | 18775538 | TT |
| rs10483727 | 21398277 | CT |
| rs1900004 | 21398277 | CC |
| rs4236601 | 24034151 | AG |
| rs4656461 | 22714896 | AA |
| rs1048661 | 20142848 | GG |
| rs2165241 | 17690259 | TT |
| rs3825942 | 20142848 | GG |
| rs10811661 | 18477659 | TT |
| rs1111875 | 18231124 | TT |

| SNP ID | Reference PMID | Your genotype |
|------------|----------------|---------------|
| rs12255372 | 17671651 | GT |
| rs13266634 | 18437351 | CT |
| rs1801282 | 17903300 | CC |
| rs5219 | 17977958 | TT |
| rs7903146 | 17977958 | CT |
| rs7923837 | 18231124 | AA |
| rs9300039 | 17463248 | AC |
| rs9939609 | 19158205 | AA |
| rs12345 | 12345 | XX |
| rs12345 | 12345 | XX |
| rs12345 | 12345 | XX |
| rs12345 | 12345 | XX |
| rs12345 | 12345 | XX |
| rs12345 | 12345 | XX |
| rs12345 | 12345 | XX |
| rs12345 | 12345 | XX |

Glossary

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.

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 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.

SNP or Single Nucleotide Polymorphism is a specific variation in an individual's DNA sequence. SNP RS 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).

Gene name is the official symbol of the gene this genetic marker is located in or is close to. If the gene name is "Intergenic" there are no protein coding genes close to the SNP.

Genotype is the allele or nucleotide (A, T, G or C) combination found at the SNP in your DNA. Two alleles are shown because you inherit one from your mother and the other from your father and therefore they can be different. Your genotype is determined by the genetic test done in a certified laboratory.

Gene is part of DNA that contains information necessary for synthesis of one protein. Changes or alterations to genes often result in changes in phenotype (appearance, personality, disease susceptibility, metabolism type etc).

Odds Ratio (OR) is the statistical possibility that a person with given genotype may have the disease compared to people with common genotype. An OR greater than 1 shows an increase in risk and OR smaller than 1 shows a decrease in risk.