



# Personalized DNA Report



Name:

Kit ID:

Report date:

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Doctors and scientists agree that if we know our DNA profile, we can make appropriate lifestyle choices to help us live a long and healthy life. This is why I built Welala.

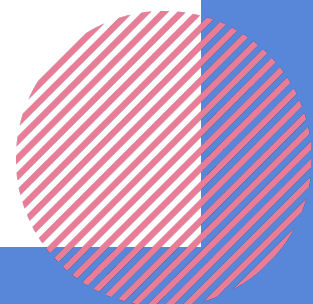
This report will provide you with the scientific basis for your lifestyle changes. We have analyzed your DNA, compared it to that of other individuals from populations in the Certified International Databases, and derived practical suggestions you can implement immediately.

The last step is up to you. Follow our suggestions, and I can assure you that you will feel the difference in your life.

I wish you success on your journey.

*P.chotikasemsri*

Pongsathorn Chotikasemsri  
CEO & Founder, Welala  
Ph.D. Biomedical Engineering



# What is DNA ?

Have you ever wondered why some people learn quickly? Why do some people have difficulties losing weight? Why do some experience hair loss at a young age? Why do others get sick often, despite taking good care of their health? The answer to these puzzles is in our DNA.

DNA (Deoxyribonucleic Acid) carries all of our genetic information. Nearly every cell in the human body has the same DNA - about 99.9% are similar. It is the remaining 0.01% that makes each person unique. DNA is like a blueprint that defines an individual's expression. The difference in the DNA code in each person affects brain functions and body systems, including talents, characteristics, and tendencies to develop severe diseases in the future.

# Can DNA change over time ?

Yes, it can change, and it is called "Mutation." A mutation is a change that occurs in genetics, whether it results from errors in DNA replication or from environmental factors, such as UV light, tobacco, drugs, food, and other triggers in everyday life. These may cause genetic changes in individuals within the general population.

There are two types of mutations:

1. Hereditary mutations are mutations that are passed from parents to children, which can cause various diseases at birth or during infancy and childhood.
2. Acquired (somatic) mutations are mutations caused by environmental and lifestyle factors, such as exposure to UV rays, smoking, or long-term exposure to certain chemicals.



# How is DNA analysed ?

There are many benefits to be derived from DNA tests, such as proper diet, exercise planning, prevention or treatment of diseases, and the correct selection of medicines for best results.

Welala leverages the most advanced DNA technology, called "WES technology," and our specific algorithm to analyze the genetic data and provide recommendations to help you understand your body.

WES technology, the latest advancement of Next Generation Sequencing (NGS), is a highly accurate genetic technology, capable of searching and analyzing all critical genetic codes (genomes) for more than 30,000 genes in your body which affect health and disease progression.

The genetic code information obtained is compared with the data from numerous certified international genetic databases. These databases collect the history of clinical data and the DNA mutations associated with the development of various diseases within different populations.

So, you can be sure that you are getting the most accurate and up to date results.

SAMPLE REPORT



# Summary Report

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# Your Welala DNA Score

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## What is Welala DNA Score ?

Your DNA test reveals genetic variations from multiple locations on your DNA strand. These variations are further processed with a specific algorithm to calculate your "Welala DNA score."

Your Welala DNA score (ranging from 0-10) is a weighted average of your lifestyle, family planning, health risks, medications, and covid condition, compared with the DNA of healthy people.

A score below 7 indicates that your DNA profile is significantly different from that of most healthy individuals. You may have many disease risks that you need to be very cautious about.

A score ranging from 7 to 9 means that you have some disease risks that you need to be careful about. You should monitor your health closely and consult doctors if necessary.

A score ranging from 9 to 10 indicates that your DNA profile is healthy, with only slight mutation to be concerned about.

A score of 10 is the maximum score, meaning that your DNA profile is 'perfect' and no mutation has been detected.

Each score in your lifestyle, family planning, health risks, medication, and covid condition is calculated by Welala's specific algorithm.

You should keep in mind that:

1. Diseases or illnesses can be caused by genetics, lifestyle, and environmental factors. If high risks have been detected in your DNA, this does not mean that you will definitely develop the diseases. It does imply, however, that you need to be very cautious.
2. Detecting disease risks will help you become aware of your own body and this will help you address health conditions early on, increasing the likelihood of cure.





## Your Welala DNA Score

Your Score

9.28

Lifestyle

9.53



Family Planning

8.79



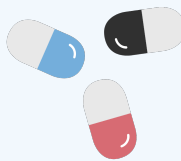
Health risks

9.42



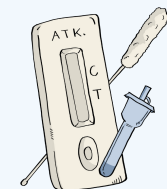
Medication

9.10



Covid

9.58



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## Welala DNA Score

**Your Score****9.28****Potential watch-outs**

### Lifestyle

**9.53****You need to be cautious about**

Diet 9.53

Pollution 9.91

Well-being 9.07

Stress &amp; Sleep 9.40

Skin and Beauty 9.69

Sports and Fitness 9.44

Vitamins and Minerals 9.66

Tendency for Mosquito Bites

Power Capacity

### Family Planning

**8.79****You are at risk for symptoms**

Inherited mutations 8.79

Familial Mediterranean Fever

### Health risks

**9.42****You have high risks**

Cancer Risks 9.09

Brain Health Risks 9.65

Other Health Risks 9.36

Common Health Risks 9.57

Brain Cancer

Autism

Syndromic Hearing Loss

Familial Hypercholesterolemia

### Medication

**9.10****You need to use these drugs with caution**

Pain 9.78

Diabetes 8.97

Geriatrics 9.11

Paediatrics 8.76

Psychiatric 8.77

Cardiovascular 9.52

Commonly Prescribed Drugs 8.77

### Covid

**9.58**

# Your Personalized Program

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## Your Personalized Program

### Lifestyle

#### Diet

Overall, your DNA is in good shape. Nothing to worry about.

#### Vitamins and Minerals

You have the same normal amounts of vitamins and minerals as the average person needs. Nothing to worry about.

#### Sports and Fitness

Overall, your physique is great. However, please get the right workout plan through your personal trainer to best suit your DNA.

#### Well-being

You are more prone to have inflammation of various wounds, including mosquito bites wounds. Please see this section for more details.

#### Stress & Sleep

Your sleep level is normal, like most people, getting enough rest for 8 hours a day.

#### Skin & Beauty

You have no skin risks. Nothing to worry about. However, it is recommended that you use sunscreen.

#### Pollution

Your body is able to deal with the pollution that enters the body very well. However, we should all stay away from pollution.

### Family Planning



You are at risk for 3 diseases that can be inherited genetically which need to be careful. Please see this section for more details.

### Health risks



You are at risk for 26 diseases that can be inherited genetically which need to be careful. Please see this section for more details.

### Medication



There is no medication that you need to be concerned about. However, every medication must be taken at the discretion of a medical professional.

### Covid Condition



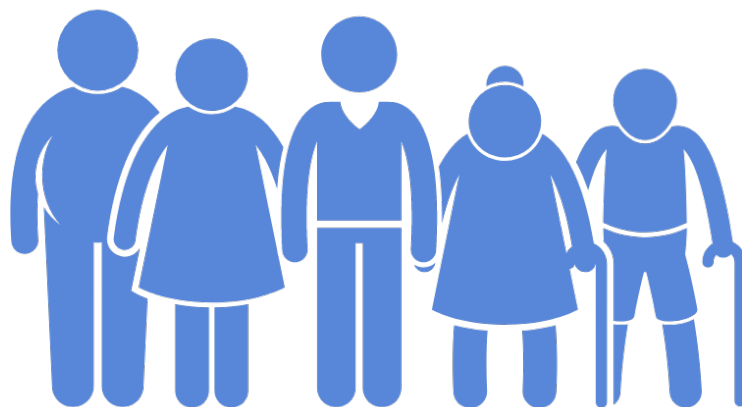
You tend to have severe Covid-19 infection symptoms. However, it is advisable to get more vaccinations to fight new strains of pathogens.

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# Your Characteristics and Traits

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## Characteristics and Traits

Your Characteristics and Traits (also called "Phenotypes") are determined both by certain groups of genes and by your environment, e.g., the people around you and how you are raised, etc.

We can compare your genes with those in the Certified International Genetic Databases, to identify specific behaviors, personalities, physical traits and talents.

Therefore, the DNA test gives people insights into whether an aptitude or skill has arisen naturally or requires conscious effort to develop. These indicators can provide valuable clues about your personal development, education and career path.

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## Characteristics and Traits

Success and Talents	Normal	Excellent	Gifted
Creativity		▲	
Memory Skills	▲		
Music Ability		▲	
Dancing Ability	▲		
Language Ability		▲	
Mathematical Skills			▲
Educational Attainment			▲
Emotional Quotient (EQ)		▲	
Intelligence Quotient (IQ)			▲
Information Processing Power		▲	
Entrepreneurship Tendency (AQ)			▲

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## Characteristics and Traits

### Behavior

Altruism



Food Addiction



Alcohol Addiction



Smoking Addiction



Obsessions with Washing/Cleaning



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# Characteristics and Traits

## Physical

Eye Colour



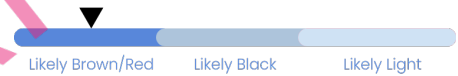
Breast size



Earwax Type



Hair Colour



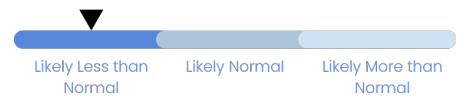
Ear Protrusion



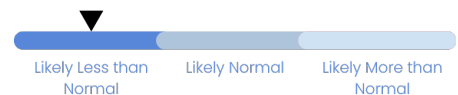
Pain Sensitivity



Smell Sensitivity



Facial & Body Hair



Persistent Thinness



Waist Circumference



Photic Sneeze Reflex



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## Characteristics and Traits

### Physical

Male Sex Hormone Levels



Body Odour (Bromhidrosis)



Female Sex Hormone Levels



Sweat (Hyperhidrosis) Tendency



**SAMPLE REPORT**





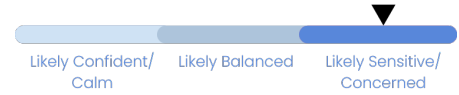
# Characteristics and Traits

## Personality

Openness



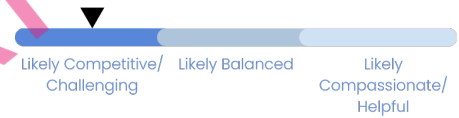
Neuroticism



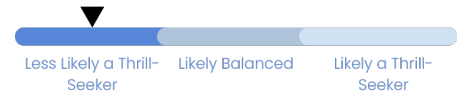
Extraversion



Agreeableness



Thrill-Seeking



Conscientiousness



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# Characteristics and Traits

## Success and Talents

Creativity



Memory Skills



Music Ability



Dancing Ability



Language Ability



Mathematical Skills



Educational Attainment



Emotional Quotient (EQ)



Intelligence Quotient (IQ)



Information Processing Power



Entrepreneurship Tendency (AQ)



SAMPLE REPORT



## Characteristics and Traits

### Behavior

#### Altruism



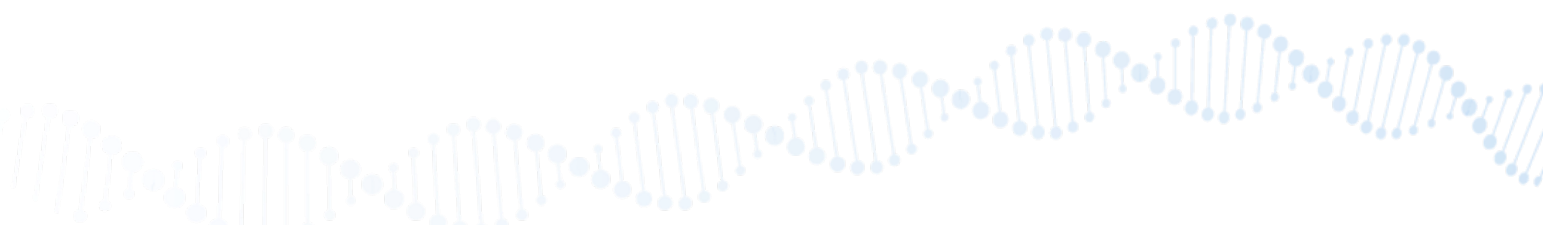
#### Explanation:

Altruism is the level of frank and straightforwardness toward another person. For those who are more likely altruistic usually means that they will be able to speak and hear more of the truth.

#### Detected Genes:

OXTR

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## Characteristics and Traits

### Behavior

#### Food Addiction



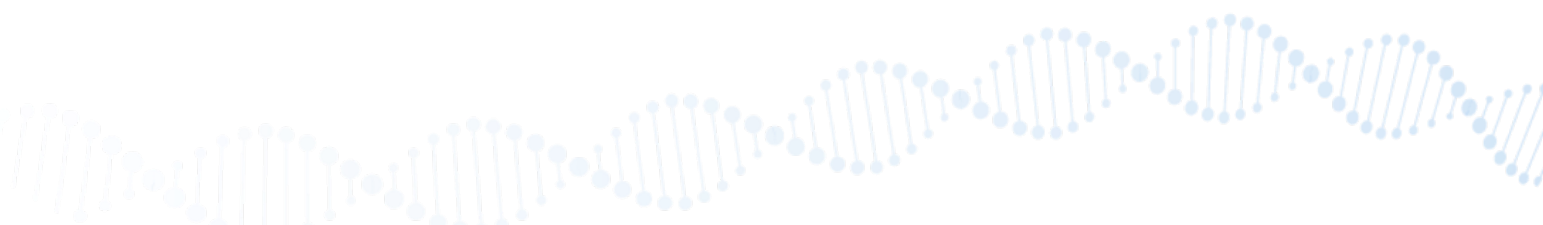
#### Explanation:

Food addiction is a behavioral addiction that is characterized by the compulsive consumption of food. For those who are more likely to have a food addiction, you will always eat when you are not hungry and you will tend to consume a large amount of unhealthy foods.

#### Detected Genes:

NTM, PRKCA

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## Characteristics and Traits

### Behavior

#### Alcohol Addiction



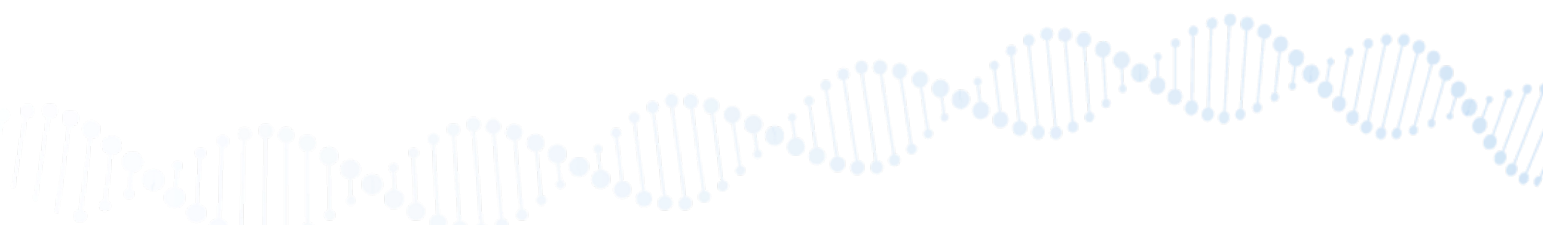
#### Explanation:

You are more likely to get addicted to alcohol after consuming for a while. This also means you have more chance to have physical or health problems from drinking alcohol.

#### Detected Genes:

DCC, NGF, GNAL, HIP1, MSR1, MUC7, RND3, ADH1C, CNTN5, FSTL5, MBNL2, NEIL2, OPCML, SUGCT, ABI3BP, ANKS1A, CAMTA1, COL6A1, PKN0X2, PPFIA2, TAMM41, RASL11A, TMEM108, ITPRIPL2

**SAMPLE REPORT**



## Characteristics and Traits

### Behavior

#### Smoking Addiction



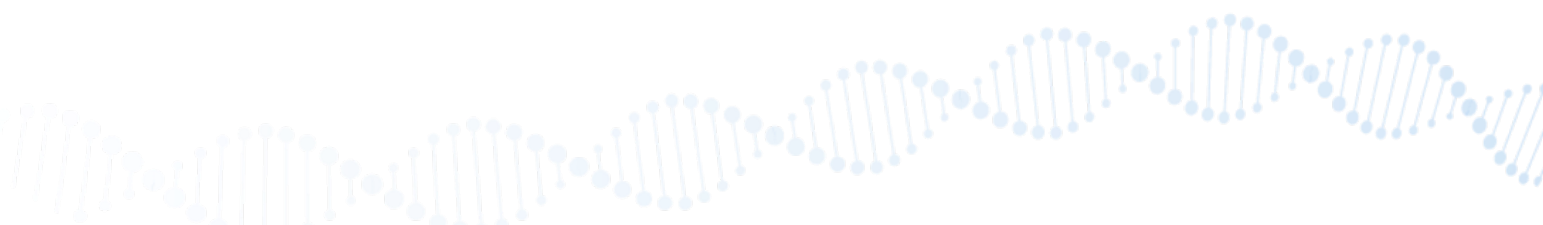
#### Explanation:

Smoking is not a simply bad habit, it's an addiction. The drug inside tobacco that people are addicted to is called nicotine. People who are more likely addicted to smoking means that they have more chance to be addicted to the smoking habit even if they try to smoke just a little.

#### Detected Genes:

DNM1, DRD2, ANKK1, GLIS3, NR5A2, CHRNA3, CHRNA4, CHRN3, DLGAP3, ADAMTSL1, CACNA2D3, SLC22A23

**SAMPLE REPORT**







## Characteristics and Traits

### Behavior

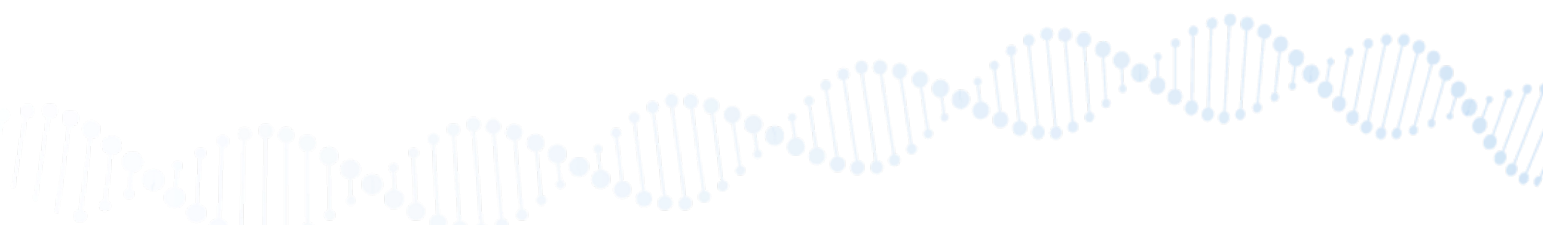
#### Obsessions with Washing/Cleaning



#### Explanation:

People who are less likely to be obsessed with washing or cleaning don't enjoy cleaning up when they are expected to. Sometimes, however, they may do cleaning chores unasked, when they are in the mood to.

**SAMPLE REPORT**





## Characteristics and Traits

### Physical

#### Eye Colour



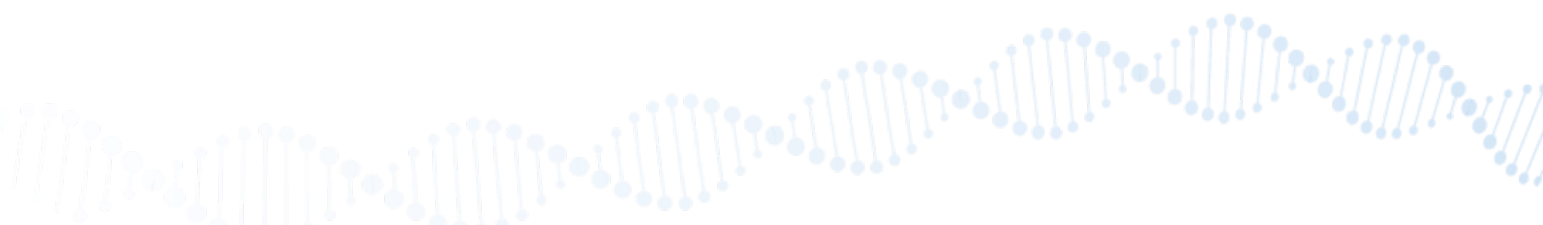
#### Explanation:

Your eye colour is more likely to be brown.

#### Detected Genes:

IRF4, OCA2, HERC2, SLC24A4, SLC45A2

**SAMPLE REPORT**



## Characteristics and Traits

### Physical

#### Breast size



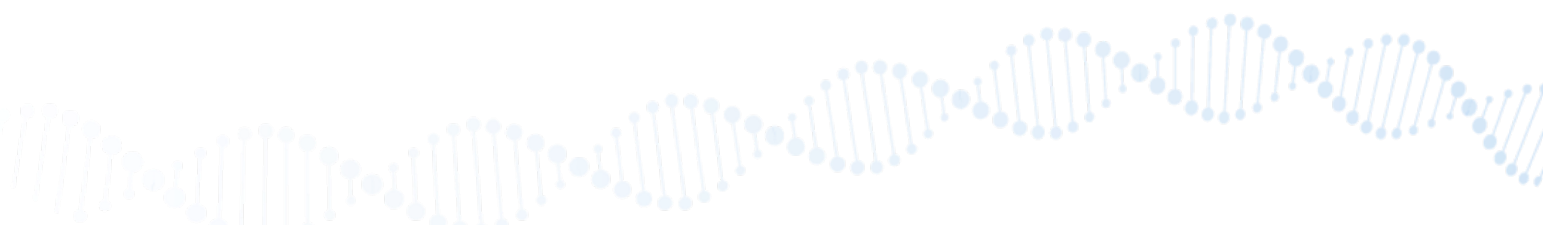
#### Explanation:

Your breast size is likely average.

#### Detected Genes:

AREG, CDON, ESRI, FHIT, GPC5, HSCB, CADPS, DCLK1, DOCK4, ELMO1, KCNU1, LMOD1, MROH5, PTPN4, DIAPH3, ZNF365, CCDC170, SERPINA1, SERPINA6

**SAMPLE REPORT**

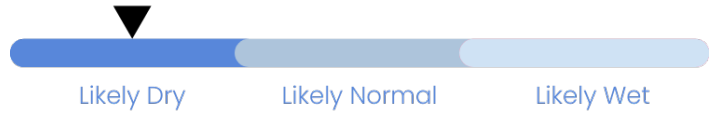




## Characteristics and Traits

### Physical

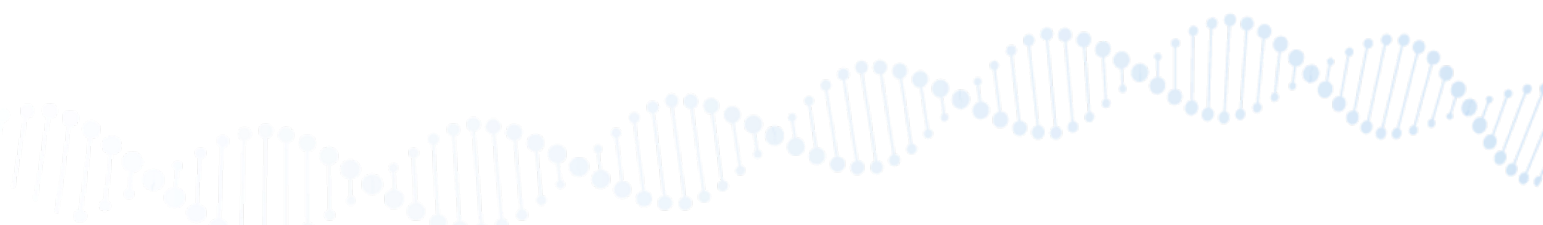
#### Earwax Type



#### Explanation:

Your earwax is likely to be dry. You might need to be more careful when cleaning your ears.

**SAMPLE REPORT**





## Characteristics and Traits

### Physical

#### Hair Colour



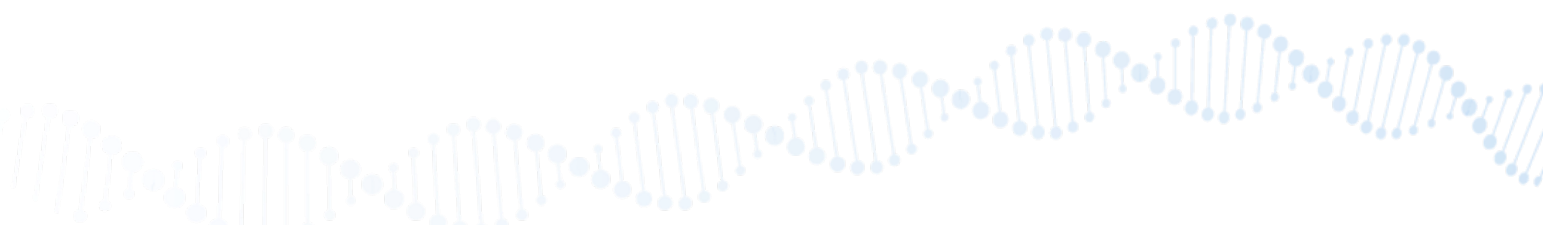
#### Explanation:

Your hair colour is more likely to be brown or red.

#### Detected Genes:

IRF4, OCA2, HERC2, SLC24A4, SLC45A2

**SAMPLE REPORT**





## Characteristics and Traits

### Physical

#### Ear Protrusion



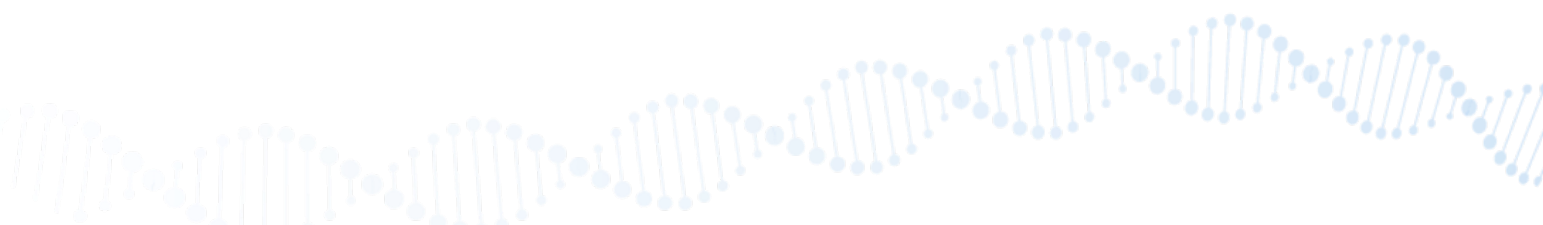
#### Explanation:

Ear Protrusion is when ears are stuck out more than 2 cm from the side of the head. You are less likely to have ears that protrude.

#### Detected Genes:

EDAR

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## Characteristics and Traits

### Physical

#### Pain Sensitivity



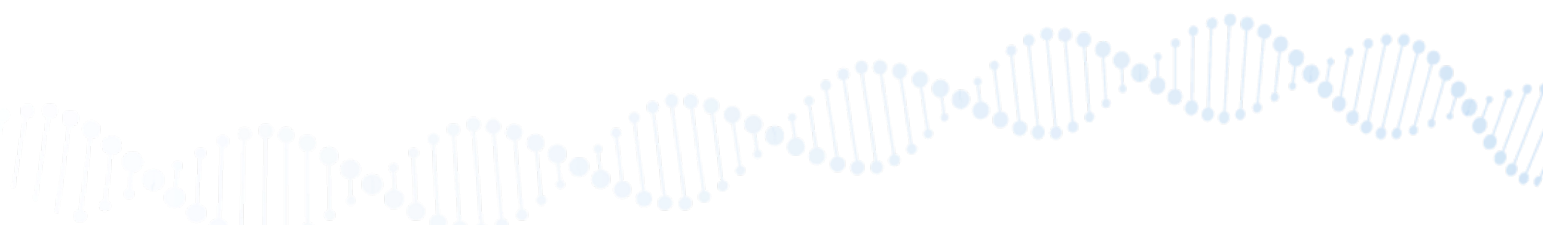
#### Explanation:

Your pain sensitivity is likely normal.

#### Detected Genes:

COMT

**SAMPLE REPORT**



## Characteristics and Traits

### Physical

#### Smell Sensitivity



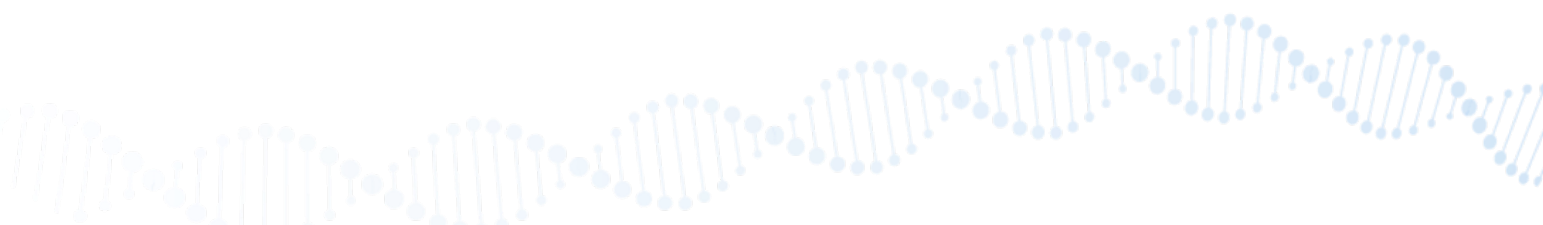
#### Explanation:

Your smell sensitivity is likely less than normal. You don't notice some smells that others usually do notice.

#### Detected Genes:

NSF, ERC2, NCAM1, PCDH9, PPM1H, SPON1, STAB2, ADRA1D, PTCHD4, THEMIS, PPARGC1A

**SAMPLE REPORT**







## Characteristics and Traits

### Physical

#### Facial & Body Hair



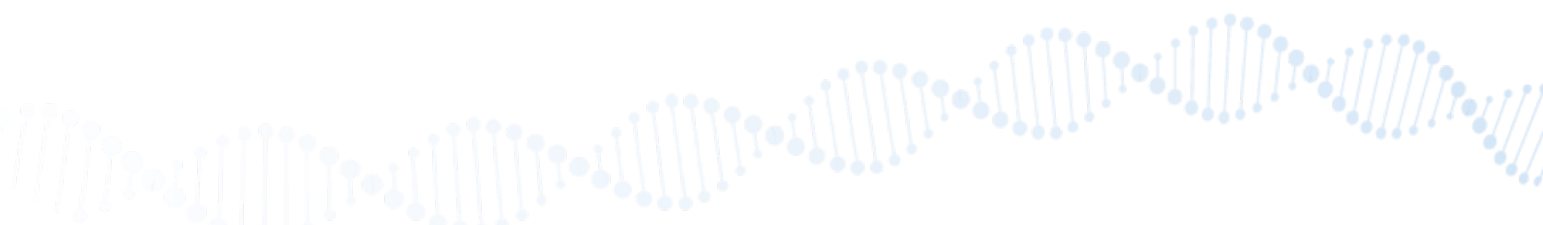
#### Explanation:

Your facial and body hair is likely less than normal, but this is nothing to worry about.

#### Detected Genes:

BCL2, EDAR, LIMS1, TBX15

**SAMPLE REPORT**



## Characteristics and Traits

### Physical

#### Persistent Thinness



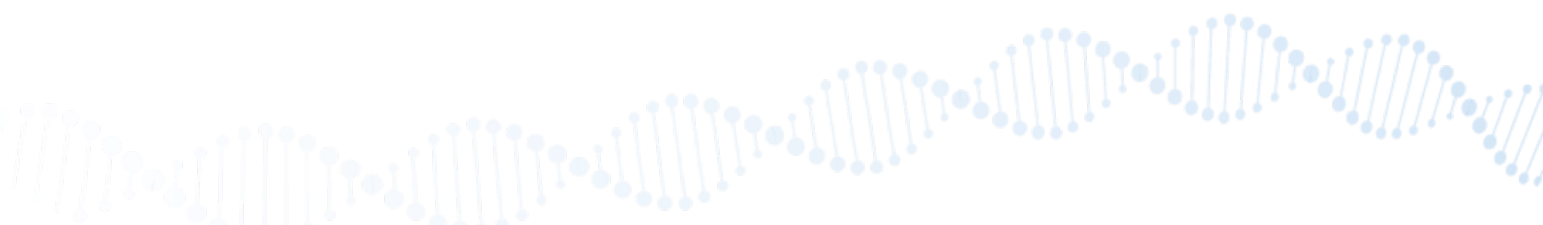
#### Explanation:

Persistent Thinness is a characteristic of people who usually stay thin. In this case, it means that you are likely to stay thin over a period of time.

#### Detected Genes:

FTO, FAT1, GPC6, INTU, MDS2, PHF2, SCD5, SNX5, ADCY3, CADM2, CCND1, CDH23, CNTN6, DCHS2, ECT2L, FAIM2, GPR26, HOXA1, KCNJ3, KNDC1, LMX1B, MTCL1, NXP1, PKHD1, PTBP2, PTH2R, PTPRU, ZFH3, ZMAT3, ALS2CL, ANKS1B, CARD18, CCSER1, CDKAL1, COL8A2, GNPDA2, LARGE1, PDE10A, PIK3C3, SEC16B, SEMA3B, SLC2A7, TMEM18, UNC13C, COL13A1, ONECUT1, SLC44A5, SLC7A14, SPATS2L, ADAMTS20, RAPIGAP2, SLC38A11, LOC400710, RAB11FIP2

SAMPLE REPORT



## Characteristics and Traits

### Physical

#### Waist Circumference

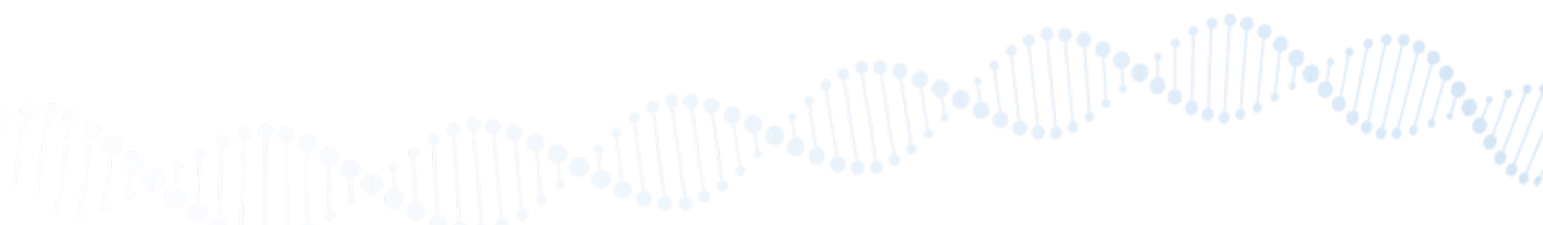


#### Explanation:

Your waist circumference is likely average.

#### Detected Genes:

FER, ACAN, ASZ1, ETV5, EZH2, GBE1, HHIP, JUND, KAT8, LHX2, NPR3, PEPD, RYBP, SUFU, AAGAB, ADAP2, ADCY9, AGLB4, ARL15, CADM2, CCNJL, CPEB4, FGFR4, FOXO3, GNA12, HMGA2, HOXC4, ITGB6, ITGB8, JAZF1, KCNE4, LCORL, LOXL1, LTBP1, MFAP2, MYOIF, NEGR1, NRXN3, PCSK5, PRKD1, PRKG2, PTCH1, QPCTL, RSPO3, SH2B1, SPDL1, SRPK2, TBX15, VEGFA, ZNRF3, ADGRG6, ANKS1A, CCDC91, CEP120, CEP295, COBLL1, COL6A1, DNAH10, DNAJB4, DNMT3A, EFEMP1, FBXW11, FNDC3B, GNPDA2, GPRC5B, IL1RAP, IL1RL2, KLHL36, LIN28B, LINGO2, NT5DC2, SEC16B, SPAG17, TCF7L2, TFAP2B, TMEM18, TRIM66, TSEN15, ZBTB38, ZNF423, ANAPC13, C5orf67, CABLES1, CYP17A1, PPP2R3A, SLC22A2, ADAMTS17, ADAMTSL3, SLC39A13





## Characteristics and Traits

### Physical

#### Photic Sneeze Reflex



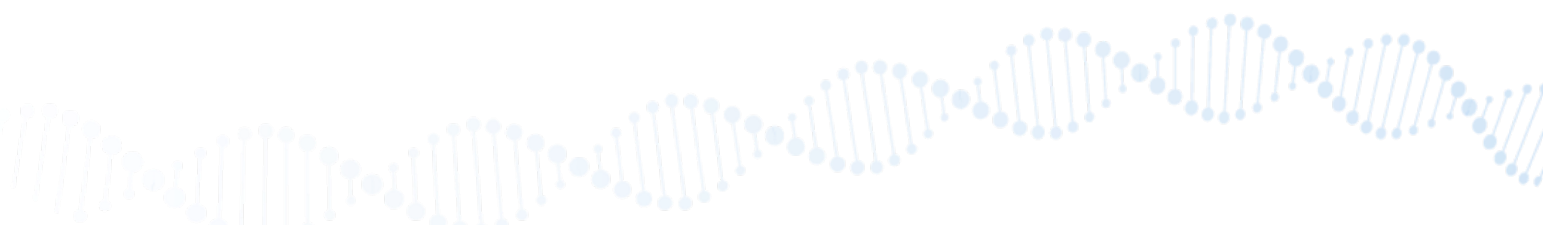
#### Explanation:

Photic sneeze reflex is a sneezing reaction triggered by sunlight. Having less likely photic sneeze reflex means that you are less likely to exhibit this reaction when in strong sunlight. Hence, you can tolerate sunlight better than others.

#### Detected Genes:

ADAMTS13

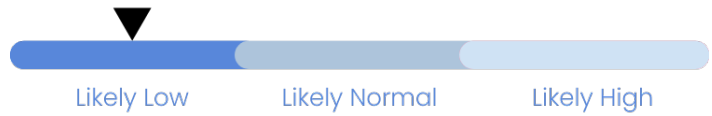
**SAMPLE REPORT**



## Characteristics and Traits

### Physical

#### Male Sex Hormone Levels



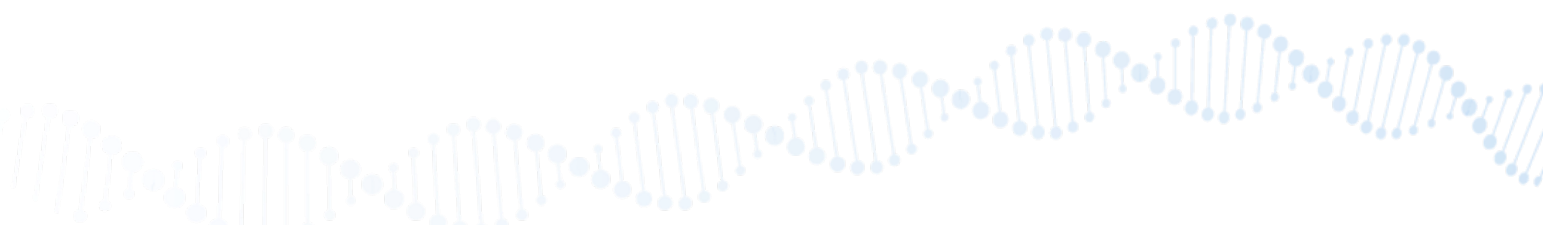
#### Explanation:

Your male sex hormone levels are likely lower than normal. There might be minor effects of decreased sex drive or decreased sexual satisfaction, fatigue, and low energy.

#### Detected Genes:

SHBG, REEP3

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## Characteristics and Traits

### Physical

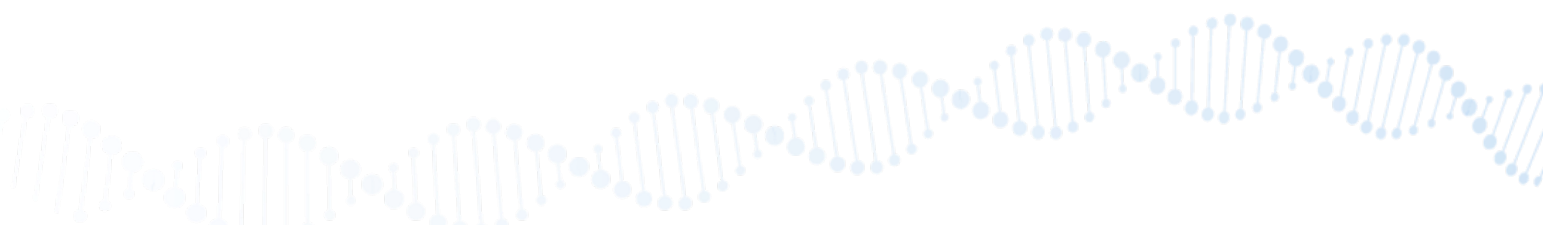
#### Body Odour (Bromhidrosis)



#### Explanation:

Bromhidrosis (body odour) is a condition in which excessive odour, usually an unpleasant one, comes from the skin. Your body odour is likely less than normal.

**SAMPLE REPORT**





## Characteristics and Traits

### Physical

#### Female Sex Hormone Levels



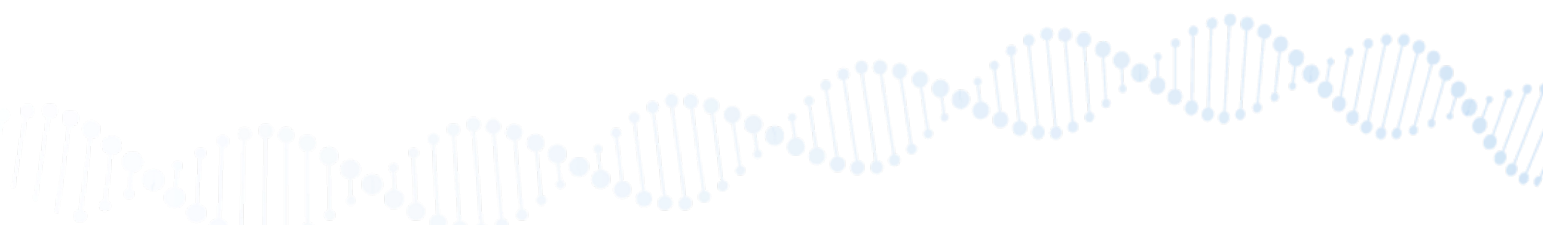
#### Explanation:

Your female sex hormone levels are likely to be high.

#### Detected Genes:

ANO2, FSHB, SLC22A24

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## Characteristics and Traits

### Physical

#### Sweat (Hyperhidrosis) Tendency



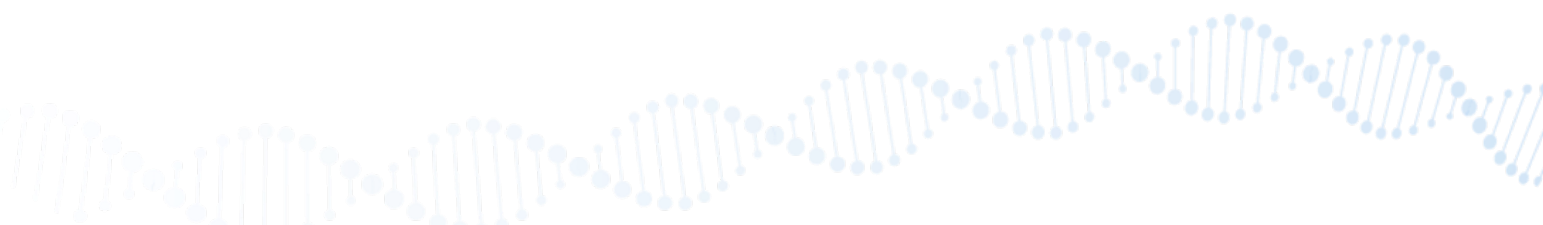
#### Explanation:

Sweat (Hyperhidrosis) Tendency is likely normal means that you sweat normally.

#### Detected Genes:

PLBI

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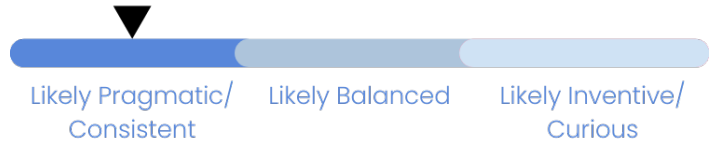




## Characteristics and Traits

### Personality

#### Openness



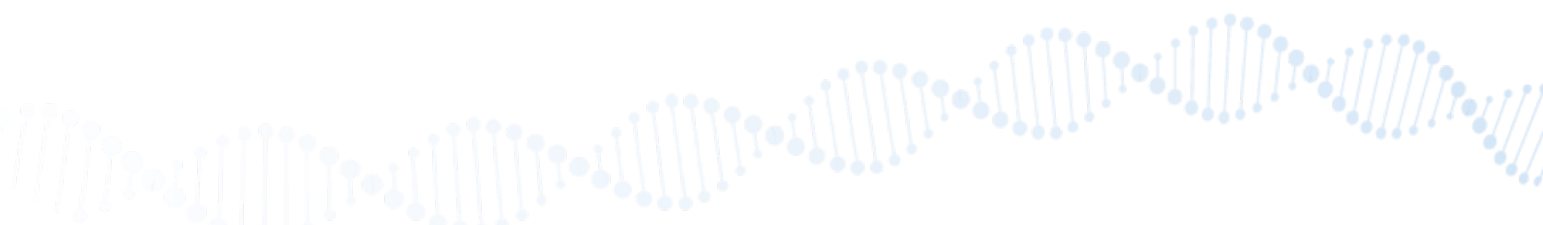
#### Explanation:

People who are pragmatic/consistent handle things sensibly and realistically, basing their responses on practicalities rather than on theoretical considerations. This characteristic reflects a person's way of thinking and doing. They aim to complete tasks with fewer mistakes.

#### Detected Genes:

ERBB4, FUNDC1, INSIG1, ZNF180, TMEM132E

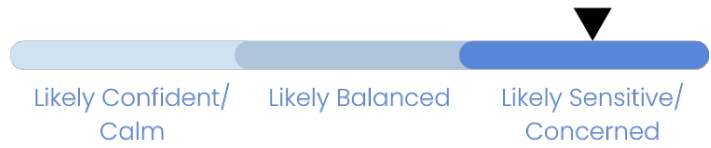
**SAMPLE REPORT**



# Characteristics and Traits

## Personality

### Neuroticism



#### Explanation:

Neuroticism reflects your anger, anxiety, self-consciousness, irritability, and emotional instability. People who are likely sensitive or concerned usually are the ones who need to think carefully before they do anything, and value a lot of what people say.

#### Detected Genes:

BBX, BLK, DCC, HFE, NSF, SP4, UOX, AATK, CDH2, CLUH, CRB1, DRD2, EXD2, GRM5, GRM8, ITCH, KSR2, LRP4, MADD, MAPT, MBD5, MGMT, MSRA, NOL4, NOS1, NTN1, ORC4, PAX6, PHF2, RORA, SBF2, SGCZ, SNCA, SOX5, SOX6, TCF4, TLR4, TNKS, TOX3, VRK2, WNT3, XKR6, ACSS3, ADTRP, AGBL1, AGBL4, AREL1, ARNTL, ASCC3, ATF6B, BEND4, CADM2, CELF2, CELF4, CENPW, CHMP3, CMTR2, CNTN5, CRHR1, CSF3R, CSMD1, DCAF5, DIP2C, EIF1B, EPHA4, ETNK1, F13A1, FARP1, FOXP2, GATA4, GLIS3, GNAO1, GRIK3, HIPK2, HPSE2, ICA1L, KCNH7, LMOD1, LMTK2, MED24, MEF2C, MTMR9, MYO1H, NCAM1, NCOA5, NDST3, NPHPI, NR2F2, NYAP2, OR5V1, PDE1C, PELI1, PLCL2, PPP5C, PRAG1, PRKCA, PTCH1, PTK2B, PTPRJ, RAPSN, RSRC1, RSRC2, SMLR1, STAB1, STAG1, TENM3, TRPS1, TRPV6, TTC12, TYRP1, UMAD1, VPS41, ACVR2A, ARPP21, BAIAP2, CAMTA1, CARD11, CCSER1, CDCA7L, CTNND1, CYP7B1, DLGAP2, IL20RB, KCNIP4, KCTD10, LINGO2, LSMEM2, MAD1L1, MFHAS1, MICAL2, PMAIP1, PRDM11, PRPF4B, PRSS55, PWWP2B, RAB27B, RBFOX1, SEMA6D, SHISA9, SORCS2, SORCS3, TCF7L2, ZC3H7B, ZDHHC5, ZNF507, ZNF536, ZNF609, ANKRD10, CACNA1E, COL19A1, CSNK1G1, CTTNBP2, DEFB134, FAM120A, FAM172A, PLEKHA2, PPP2R3A, RPS6KL1, SIPA1L1, SLC19A3, SLC44A5, SLC4A10, TMEM163, TMPRSS9, TSNARE1, ZCCHC14, ARHGAP15, ARHGAP27, GTF2IRD1, HLA-DPA1, PAFAH1B1, PPARGC1A, PSORSIC1, RABGAP1L, SLC25A17, TMEM106B, TMEM161B, LINC00208

## Characteristics and Traits

### Personality

#### Extraversion



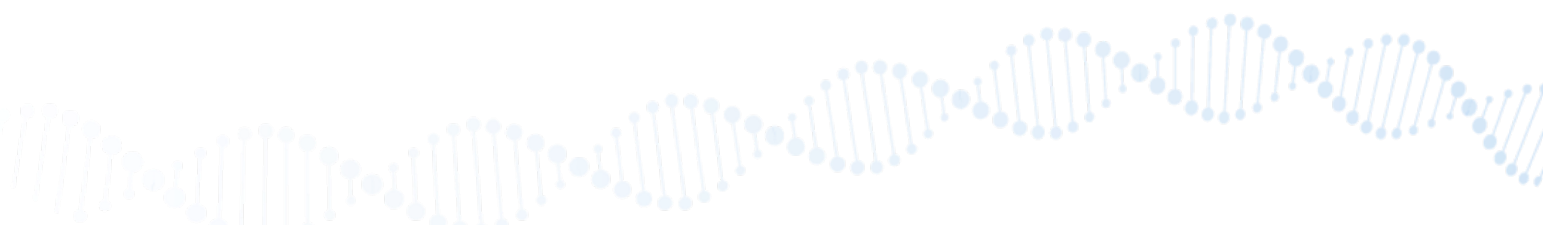
#### Explanation:

Extraversion indicates how outgoing and social a person is. Being likely balanced here means that you tend to have a balance of extrovert and introvert features.

#### Detected Genes:

GBE1, MTMR9, PCDH15, RBFOX1, ZNF180

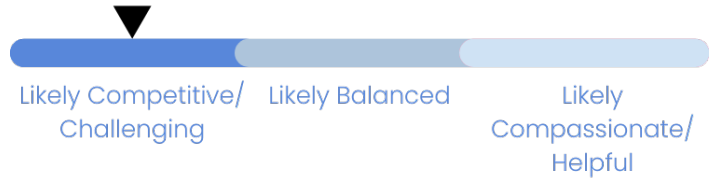
**SAMPLE REPORT**



## Characteristics and Traits

### Personality

#### Agreeableness



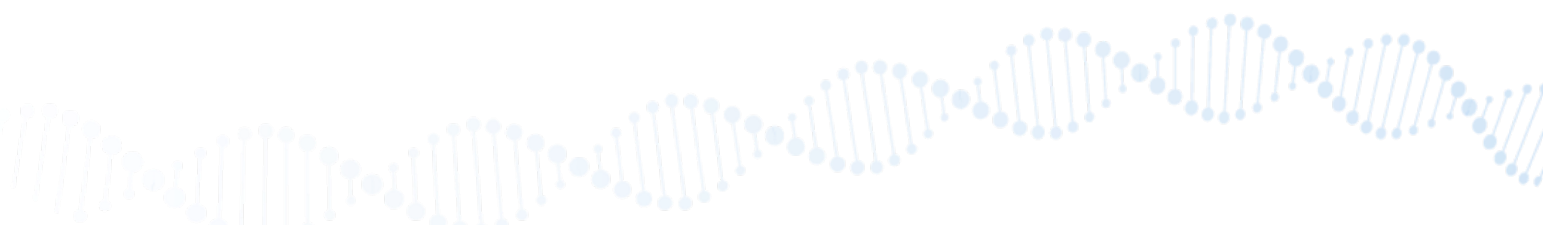
#### Explanation:

Competitiveness describes a person's desires to surpass others. People who are likely competitive or challenging usually see a situation as a competition. These people would like to be winners, not losers. Sometimes they don't even realize they're competing.

#### Detected Genes:

DRD3, CLOCK, THUMPD2

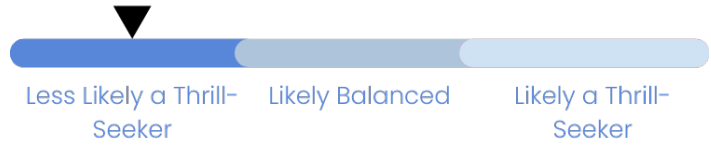
**SAMPLE REPORT**



## Characteristics and Traits

### Personality

#### Thrill-Seeking



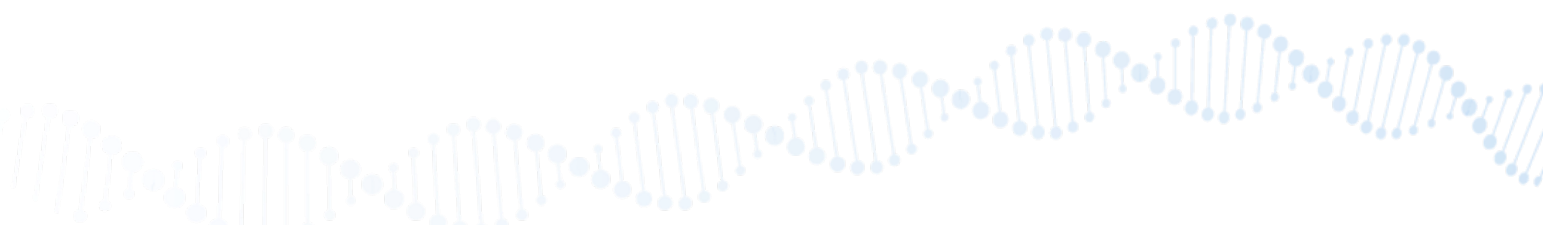
#### Explanation:

Less likely thrill-seekers tend not to participate in exciting activities that involve physical risk. This tendency will probably result in non-involvement in adventure sports such as skydiving, climbing, etc.

#### Detected Genes:

DRD4

**SAMPLE REPORT**



## Characteristics and Traits

### Personality

#### Conscientiousness



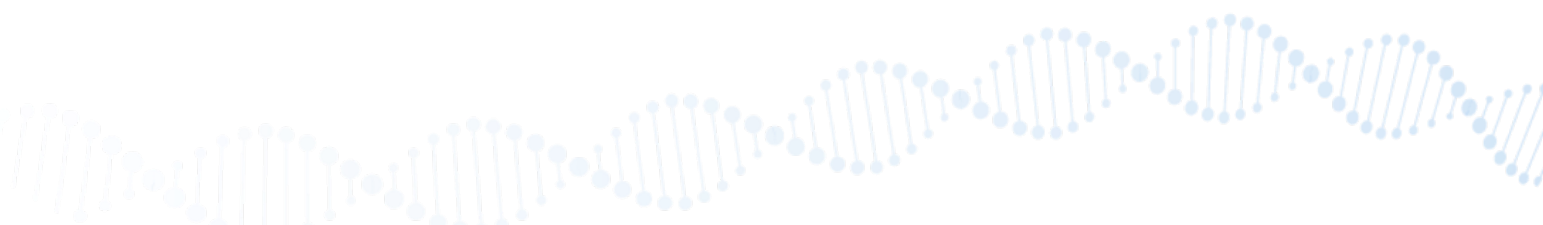
#### Explanation:

People with a likely balanced level of conscientiousness are good at formulating, organizing, planning, and working consistently to reach their long-term goals

#### Detected Genes:

IGF2BP3, KATNAL2

**SAMPLE REPORT**





## Characteristics and Traits

### Success and Talents

#### Creativity



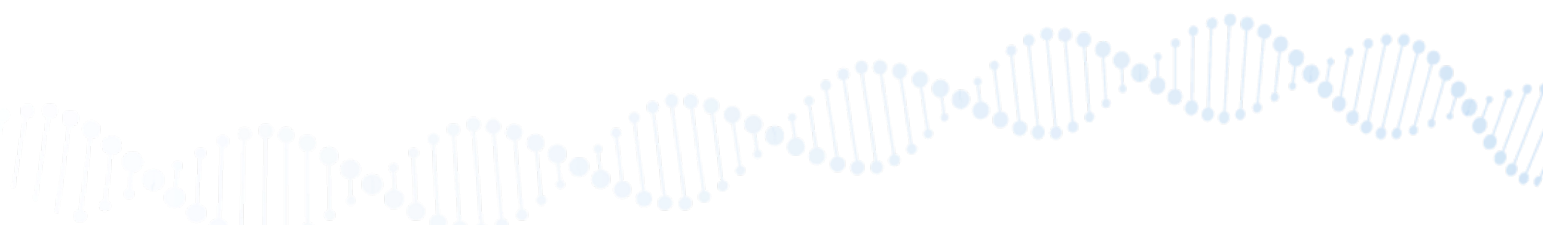
#### Explanation:

Your Creativity is excellent.

#### Detected Genes:

COMT, OXTR, TPH1, ANKK1, SNAP25, KATNAL2

**SAMPLE REPORT**





## Characteristics and Traits

### Success and Talents

#### Memory Skills



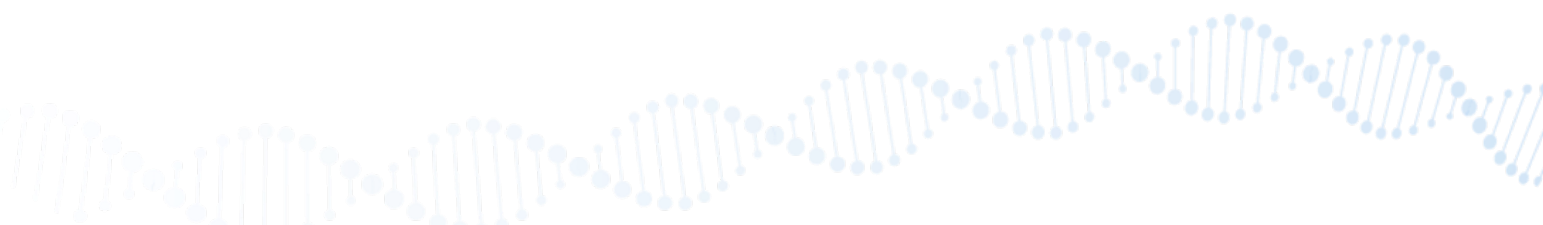
#### Explanation:

Your Memory skills are normal.

#### Detected Genes:

FASTKD2

**SAMPLE REPORT**





## Characteristics and Traits

### Success and Talents

#### Music Ability



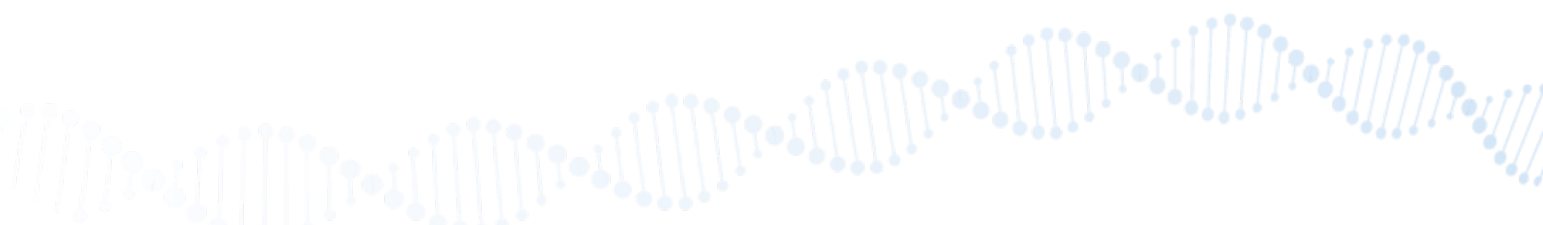
#### Explanation:

Your Music ability is excellent.

#### Detected Genes:

LRR1Q3

**SAMPLE REPORT**





## Characteristics and Traits

### Success and Talents

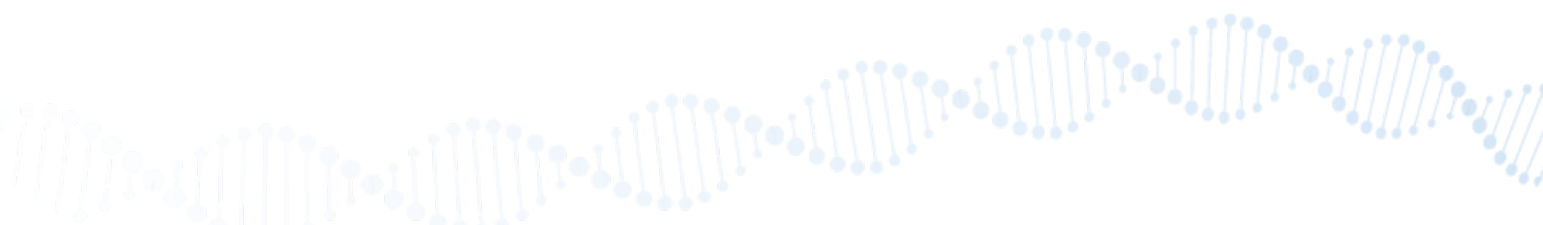
#### Dancing Ability



#### Explanation:

Your Dancing ability is normal.

**SAMPLE REPORT**



## Characteristics and Traits

### Success and Talents

#### Language Ability



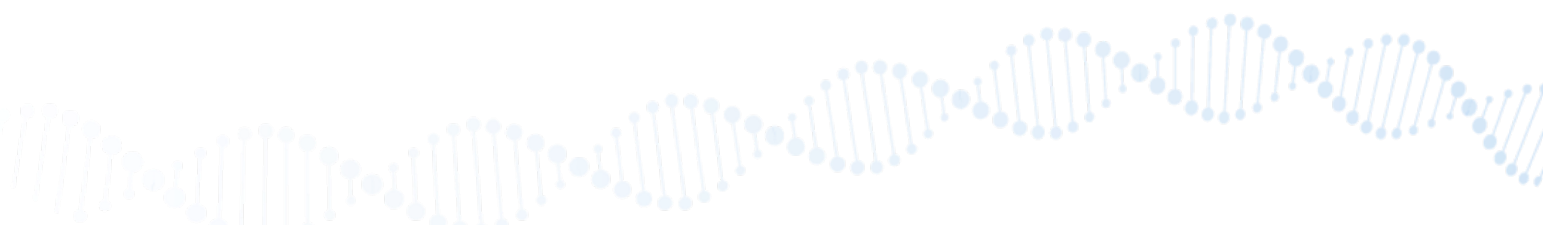
#### Explanation:

Your Language ability is excellent.

#### Detected Genes:

CDK1, ETV1, CDH13, PRKCH, DAZAPI, NOS1AP

**SAMPLE REPORT**



## Characteristics and Traits

### Success and Talents

#### Mathematical Skills



#### Explanation:

Your Mathematical skills are gifted.

#### Detected Genes:

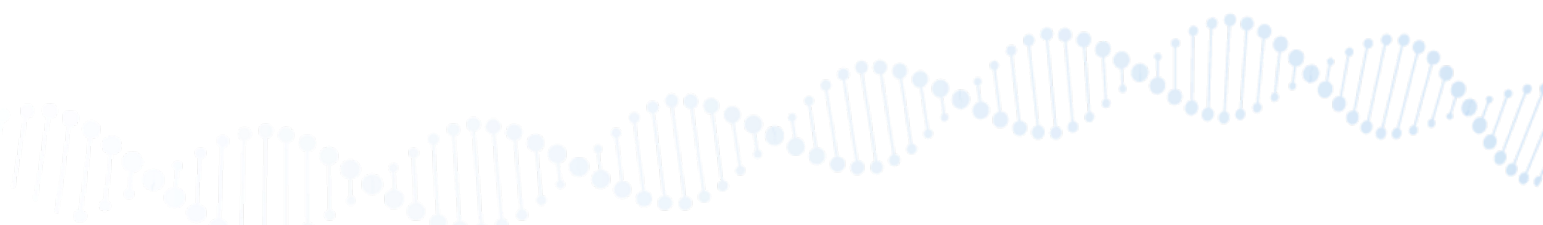
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KIF1A, KIFC2, KLF12, KLF16, KMT5A, KNTC1, KPNA1, LCORL, LIN52, LRFN2, LRP1B, LRRC7, LRRN1, MAGI1, MAML2, MAST1, MAST4, MBNL2, MDFIC, MDGA1, MDGA2, MED13, MED15, MED27, MEF2C, MEIS2, MEX3C, MKNK2, MROH5, MTMR9, MYO16, MYO19, MYO3B, NCAM1, NCAM2, NDST4, NEGR1, NOL4L, NOVA1, NPAS2, NR1D2, NR2F2, NR4A2, NRXN2, NRXN3, NTNG2, NTRK2, NUP35, NYAP2, OLFM1, OLFM4, OPCML, OPRL1, OSBP2, OTOL1, PACS1, PANK1, PARD3, PCDH7, PCDH9, PCGF3, PCIF1, PDE4B, PDE4D, PDIA3, PDIA6, PDS5A, PELI2, PEX13, PLCB1, PLCL2, PRAG1, PRDM9, PRKCA, PRKCB, PRKDI, PRKG1, PRR16, PSMD2, PTCH1, PTPNI, PTPRD, PTPRK, PTPRT, RAPIA, RARS2, RBM23, RBM27, RBM43, RBMS1, REEP3, RGS17, ROBO1, ROBO2, ROPNI, RPS26, RPS29, RREB1, SALL1, SALL3, SASH1, SATB2, SCMHI, SCML4, SCN1A, SCN2A, SETD2, SH2B1, SHTNI, SLIT2, SMCO4, SOAT2, SRSF6, STK31, STOX2, TCF25, TEAD1, TENM2, TENM3, TENM4, THEG5, TMCC3, TMED5, TMTC2, TMTC4, TRAF5, TRIB2, TRPS1, TSHZ3, TTC29, UIMC1, UNC5D, UNC79, USP28, USP40, VAC14, VSNL1, WDPCP, WDR61, XYLT1, ZBTB4, ZFPM2, ZZEF1, ACVR2A, ADARBI, ADGRBI, ARID4A, ATF7IP, B3GLCT, BAIAP2, BCL11A, BCL11B, BRINP3, BTN1A1, CACNB1, CACNG7, CADPS2, CAMK1D, CAMTA1, CCDC47, CCSER1, CHST10, CLDN23, CTNNA3, CTNNB1, CTNND1, CYP2D7, DBNDD1, DEPDC5, DIAPH1, DIAPH3, DMRTA2, DNAH11, DNAH14, DNAJA4, DPYSL4, DYNLL1, DZIP1L, EFCAB6, EGFLAM, ELOVL7, FAM78B, FBRS1, FBXL16, FBXL18, FBXW12, GABRB2, GABRB3, GABRG3, GIGYF2, GNPDA2, GOLGA3, GRIN2A, GRIN2B, GRIN2D, GRIN3A, IGSF23, IGSF9B, INPP5D, JARID2, JMJD1C, KLHL29, KLHL32, LARGE1, LHFPL3, LONRF2, LRRC4C, LRRC8B, LRRC8C, LRRIQ3, MAD1L1, MAN1A2, MAN2A1, MAP2K1, MAPRE3, MFAP3L, MFHAS1, MGAT4C, MPPED1, MYBPC3, MYO18A, NEDD4L, NPEPPS, NPLOC4, NUFIP2, NUP210, OSBPL3, PCDH10, PCDH17, PFKFB4, PLXDC2, POLRID, POLR3B, POU3F2, POU6F2, PPP4R1, PRKAG2, PRSS16, PRSS53, PTCHD4, PTPRN2, RBFOX1, RBFOX2, RGS7BP, RNF216, SAMD12, SCAMP1, SCN10A, SEMA6D, SFSWAP, SH3GL1, SH3RF3, SHANK3, SHISA9, SLC4A1, SMCHD1, SORBS2, SORCS3, SPAG16, SPECC1, SPHKAP, SPOCK1, SPPL2B, SPRED1, SPRED2, SRGAP1, SRGAP3, STK32B, STK38L, STXBPI, TCF7L2, TFAP2B, THSD7A, THSD7B, TLL11, WFDC11, ZBTB38, ZBTB45, ZC3H7A, ZNF276, ZNF423, ZNF521, ZNF536, ZNF564, ZNF609, ZNF668, AGTPBP1, ARFGEF2, B4GALT1, C4orf45, C8orf74, CACNA1C, CACNA1D, CACNA1E, CACNA1H, CACNA1I, CCDC134, CCDC85A, CDK2AP1, CNTNAP2, CNTNAP4, CNTNAP5, COLEC10, CYP21A2, DENND1A, DENND4A, DENND5B, DPY19L3, FAM120A, FAM162A, FAM167A, FAM172A, FAM180A, GALNT13, GALNT16,



KHDRBS2, KHDRBS3, L3MBTL3, MACROD2, MAPKAP1, METAP1D, MSANTD1, NCKIPSD, NDUFAF2, NECTIN1, NEURL1B, NUP210L, PHACTR3, PHF20L1, PIK3C2G, PLEKHM3, PLEKHS1, PPP1R21, PPP1R3B, PPP1R9A, PPP2R2B, PRELID2, RALGPS1, RANBP17, RAPGEF4, RAPGEF6, RUNX1T1, SDCCAG8, SIPA1L3, SLC12A5, SLC24A2, SLC24A3, SLC35F4, SMARCA2, SPATS2L, ST6GAL2, ST8SIA4, SUPT16H, TBC1D9B, TBLIXR1, TCERG1L, TMEM127, TMEM163, TMEM177, TMEM192, TMEM38B, TMEM63C, TSNARE1, TSPAN13, ZC3H12C, ZDHHC18, ZNF385D, ARHGAP15, ATP6AP1L, ATP6V0D2, C14orf39, CACNA2D2, CACNA2D3, CACNA2D4, KIAA0825, KIAA1109, RABGAP1L, SLC25A17, CTTNBP2NL, EEF1AKMT1, CSGALNACT1, LOC101929294, TBC1D7-LOC100130357

**SAMPLE REPORT**



## Characteristics and Traits

### Success and Talents

#### Educational Attainment



#### Explanation:

Your Educational attainment is high.

#### Detected Genes:

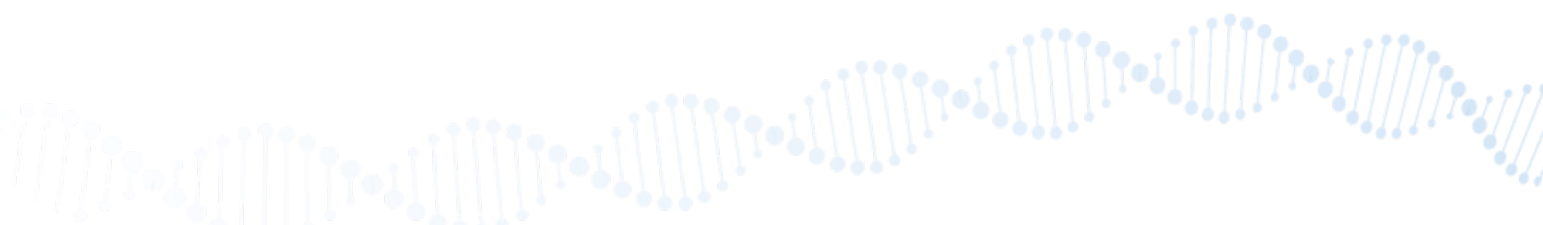
C2, AK5, AK8, ALK, ARC, BBX, BSN, DCC, EYS, FTO, GLS, HTT, LAT, MCC, MLN, MNT, NPY, NTM, PTN, SON, SP4, WRN, ADD1, ADD3, AFF3, AGO2, ASB4, BCHE, BDNF, BMP7, BRD8, BTRC, CA10, CALU, CBX5, CCNH, CD47, CDH2, CDH4, CDH6, CDH7, CDH8, CDH9, CHD2, CHL1, CIR1, CRB2, CUL3, CUX1, DAB1, DGKI, DLG1, DLG2, DNMT3, DOK5, DPP4, DPYD, DRD2, EFL1, EGR3, ESRI, ETV1, ETV5, EXD3, FAT3, FHIT, FIGN, FSHR, FUT8, FUT9, FXR1, FZD7, GATB, GBE1, GBF1, GLI3, GOT2, GPC3, GPC5, GPD2, GRK6, GRM8, HAT1, HES7, HIP1, IPO9, IWS1, KLF3, KLF9, KYNU, LHX6, LMF1, LMO3, LRP6, MAL2, MBIP, MCM9, MITF, MSI2, MSRA, MYLK, MYRF, NAV3, NBAS, NBEA, NEFH, NEO1, NFIA, NFIB, NGEF, NMD3, NPC1, NRG1, NXF3, OPA1, OTX2, PCCA, PCMI, PELO, PHF2, PIGL, PLK2, PPA2, PRTG, PTK2, PURG, RAI1, RBM6, RCC1, RCN2, RERE, REV1, RHOA, RND1, RNLS, RORA, RYBP, SDK1, SGCZ, SIK2, SIX6, SMU1, SND1, SNX8, SOX5, SOX6, SPEG, SUN1, SUOX, SYT7, TANK, TBR1, TCF4, TESC, TET2, TGM5, TLE3, TLE4, TLR4, TNKS, TNXB, TOX3, TTC8, TYW3, USP3, UTRN, VRK2, VWC2, WNK2, WWOX, WWPI, XKR4, XPO1, XPO4, XPO6, ZEB2, ZFAT, ZW10, AADAT, ACTN1, ADCY2, AGAP1, AKAP6, ALCAM, ALMS1, AP2B1, AP3B2, APBA1, APPL2, ARAP2, AREL1, ARIH2, ARL15, ARNTL, ASXL3, ATXN1, AUTS2, AZGP1, BACE2, BCAR3, BICD1, BIRC6, CABP1, CADM1, CADM2, CADPS, CALN1, CDH11, CDH13, CDH20, CELF2, CELF4, CELF5, CENPW, CNBD1, CNGB3, CNOT4, CNTN3, CNTN5, COX5A, COX5B, CPEB2, CPNE4, CRHR1, CSEIL, CSMD1, CTDP1, CWC22, CYHR1, DAGLA, DCLK1, DDX18, DIP2B, DIS3L, DMXL2, DPPI10, DSCAM, EFNA5, EIF3H, EIF5B, EPHA4, EPHA5, EPHA7, EPM2A, ERBB3, ERBB4, ERCC3, ERCC4, ESRRG, EXOC4, FABP2, FAM3B, FARP1, FARP2, FBXL5, FBXW4, FOXN3, FOXP1, FOXP2, FREM1, GANAB, GIPC2, GKAP1,

GLIS3, GMEB2, GOSR1, GPBP1, GPM6A, GRB10, GRIA1, GRID2, GRIK4, GSDMB, GTDC1, HACE1, HDAC4, HGFAC, HHLA2, HLA-B, HMGA2, HSDL1, HTR1A, HTR1B, HUWE1, IFT88, IGSF9, INTS2, INTS9, IP6K1, IP6K2, IP6K3, IPO11, IREB2, ITPR2, ITPR3, ITSNI, JADE2, KALRN, KCNG1, KCNG2, KCNH1, KCNJ3, KCNN2, KCNS1, KDM4A, KIF2B, KLF16, KMT2E, KNDC1, KNTC1, KPNA1, LAMA2, LCORL, LENG8, LIN52, LRFN2, LRP1B, LRRC7, LRRN1, LUZP2, MAG11, MAML3, MAST4, MDFIC, MECOM, MED26, MED27, MEF2C, MEIS2, MEX3C, MGST2, MROH5, MTMR2, MYH15, MYO1C, NAGLU, NCAM1, NCAM2, NCOA2, NEGRI, NELL1, NLRC3, NOL4L, NOMO1, NOVA1, NPAS2, NPAS3, NR1D2, NR2F2, NRXN1, NRXN3, NT5C2, NTNG2, NTRK2, NYAP2, OLFM4, OPCML, OPRD1, OSBP2, OTOL1, PARD3, PCDH7, PCDH9, PCGF3, PCIF1, PCSK2, PDE1A, PDE1C, PDE4B, PDE4D, PDIA6, PLCB1, PLCD3, PLCL2, PREX1, PRKD1, PRKG1, PRKG2, PRR16, PSMD2, PTPNI, PTPRD, PTPRF, PTPRK, PTPRO, PTPRT, RAB38, RARS2, RBM23, RBM33, RBMS1, REEP3, RGS17, RIMS1, RIMS2, ROBO1, RPS29, RPTOR, RSRC1, SALL1, SASH1, SBNO1, SCAF4, SCLT1, SCMHI, SCML4, SCN1A, SCN2A, SGIPI, SGSM2, SHTN1, SLIT2, SNX29, SOAT2, SPDL1, SRRM3, SRSF6, STOX2, SYNE2, SYT17, TEAD1, TENM2, TENM3, TENM4, TESK2, TEX14, THEG5, TMTC2, TMTC4, TNPO1, TRAF5, TRIB2, TRPM3, TRPS1, TSHZ2, TTC29, TUBB3, TUSC1, TYW1B, UBE2K, UBE2Z, UHRF1, UNC5C, UNC79, USPI5, USP34, VASH2, WDR17, WDR27, YWHAB, ZBTB4, ZMIZ2, ABCA13, ABI3BP, ACVR2A, ADARBI, ADGRBI, ADGRB3, ADGRG4, ADGRL3, AKRIE2, ANTXR2, ARID1B, ARID4A, ATE7IP, ATP2A3, ATXN2L, B3GLCT, BCL11A, BCL11B, BNIP3L, BRINP3, BTN1A1, CACNB1, CACNB4, CACNG7, CADPS2, CALHM3, CAMK1D, CAMK2B, CAMK2G, CAMKMT, CAMTA1, CCDC66, CCSER1, CDC25A, CELSR3, CEP170, CEP192, CHST10, CNKSR2, CRTAC1, CSRNP3, CTNNA2, CTNNA3, CTNND2, CYP2D7, DLGAP1, DLGAP2, DNAH11, DNAJB2, DOCK10, DYNLL1, EFCAB5, EGFLAM, ELOVL7, FAM47A, FAM53B, FBXL20, GABRB2, GABRB3, GABRG3, GALNT7, GEMIN2, GGNBP2, GIGYF2, GRIN2A, GRIN2B, GRIN3A, HIVEP2, HMG20A, HS6ST2, IGSF11, IGSF9B, IL20RB, IMPDH2, IQSEC3, IZUMO3, JARID2, JMJD1C, KCNIP4, KCNMA1, KIF16B, KLHL32, LARGE1, LHFPL3, LONRF2, LPCAT4, LRRC14, LRRC43, LRRC4C, LRRIQ3, MAD1L1, MAN2A1, MED13L, MFAP3L, MLLT10, MYO15A, NDFIPI, NEURL4, NPLOC4, NUP205, NUP210, OR10J1, OSBPL3, PCDH17, PFKFB4, PHF21A, PIK3R1, PLXDC2, PLXNA4, PLXNB1, PMFBP1, POU3F2, POU6F2, PPFIA2, PPP6R3, PRIMA1, PRKAG2, PTGER3, PTPRN2, RAB27B, RAB40C, RBFOX1, RBPMS2, RGS7BP, RILPL2, RNF216, SAMD12, SEMA6D, SFMBT1, SFSWAP, SH3GL1, SHANK3, SHISA9, SLC4A1, SLC7A6, SNAP25, SORBS2, SORCS3, SPAG16,



SPECC1, SPHKAP, SPOCK1, SPRED2, SRGAP3, STK32B, STK38L, STRIP1, STXBPI, SUCLG2, TANGO6, TATDN2, TDRD15, THSD7A, TMEM71, TRANK1, TTLL11, TUBA1C, ZBTB16, ZBTB25, ZCCHC2, ZCCHC8, ZDHHC2, ZDHHC5, ZNF131, ZNF326, ZNF423, ZNF462, ZNF507, ZNF516, ZNF521, ZNF536, ZNF618, ADAMTS9, AGTPBP1, ANKDD1B, ATXN7L1, B4GALT7, C1orf53, C4orf45, CACNA1C, CACNA1D, CACNA1E, CACNA1H, CACNA1I, CCDC85A, CDK2AP1, CNTNAP5, COL11A2, COLEC10, CTTNBP2, CWF19L2, DENND1A, DENND1B, DENND4A, DENND5B, DNAJC10, DPY19L3, FAM120A, FAM172A, FAM180A, FASTKD2, GALNT16, HSBP1L1, JAKMIP3, L3MBTL3, MACROD2, MAP3K14, MAPKAP1, MAPKBPI, MFSD13A, MSANTD1, NDUFAF2, PDCD6IP, PHACTR3, PLEKHM3, POLDIP3, PPP1R21, PPP1R3C, PRPSAP2, PSTPIP1, RANBP17, RAPGEF4, RPS6KA2, RPS6KC1, SDCCAG8, SLC14A2, SLC15A5, SLC17A1, SLC24A3, SLC35F4, SLC37A1, SLC44A4, SLC4A10, SMARCA2, SMARCC1, SPATS2L, ST6GAL2, SUPT16H, TCERG1L, TCP11L2, TMEM38B, TRMT61B, TSNARE1, XPNPEP1, ZCCHC14, ZDHHC21, ZNF280D, ZNF385D, ADAMTSL3, ARHGAP15, ARHGAP20, ATP6V0D2, ATXN7L3B, B3GALNT1, C11orf53, C16orf72, C1orf100, CACNA2D2, CACNA2D3, CACNA2D4, EPB41L4B, FAM114A2, IRAK1BP1, KIAA0825, KIAA1109, NAALADL2, POM121L2, PRICKLE2, SH3PXD2A, SLC22A23, EEF1AKMT1, LOC339862, TNFAIP8L3, CSGALNACT1, LOC100130370, STON1-GTF2A1L, TBC1D7-LOC100130357

SAMPLE REPORT





## Characteristics and Traits

### Success and Talents

#### Emotional Quotient (EQ)



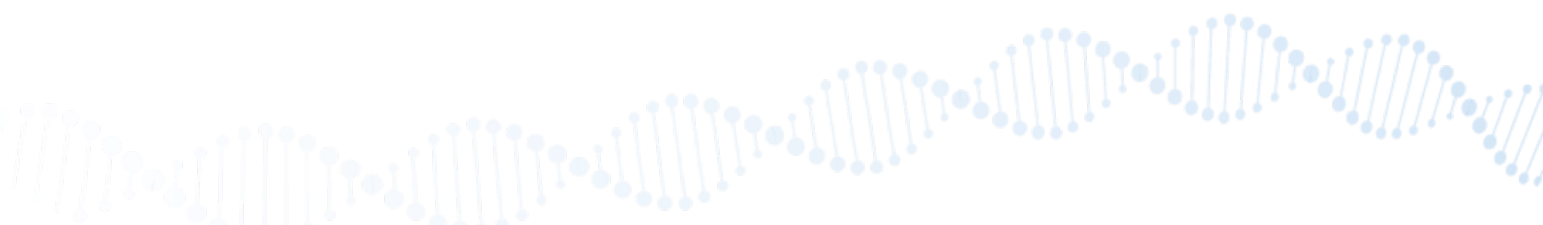
#### Explanation:

Your Emotional quotient is excellent.

#### Detected Genes:

DYSF, KYNU, MYLK, PELO, ROR2, SDC3, TBX3, ATXN1, CD177, EIF4E, FSTL4, IGSF1, KCNH7, LRRN1, PRLHR, RPTOR, TENM4, WDRI7, XYLT1, AKAP13, FNBP1L, GABRA1, GNPDA2, GOLGA3, MAP3K5, MRPL32, PRSS38, SNAP91, SORCS1, TSPEAR, IGF2BP1, SLCO4C1, TXNDC16, ADAMTS20, HLA-DPA1, LINC00693

**SAMPLE REPORT**



## Characteristics and Traits

### Success and Talents

#### Intelligence Quotient (IQ)



#### Explanation:

Your Intelligence quotient is gifted.

#### Detected Genes:

CKB, DCC, SP4, AFF3, CDH4, CDH8, CLN3, EFL1, EXD2, GATB, GBF1, GMPR, LDB2, MAPT, MYLK, NAV2, PEF1, PPA2, PURG, RAI1, SGCZ, SND1, SYT1, TANK, TET2, VRK2, WNT3, XPO4, AKAP6, APIG1, ATXN1, AUTS2, BANK1, BRWD1, CADM2, CD180, CPEB1, CYHR1, DCDC2, ESRRG, EXOC4, FLOT1, FOXO3, FOXPI, GNAT1, KALRN, KCNH7, KCNJ3, KMT2D, MEF2C, MTCH2, NEGR1, NRID2, PCGF3, PDE4D, PREX1, PRKD1, PSMA5, PTPRF, RALYL, SCMHI, SH2B1, SRPK2, TSHZ3, TTBK1, ZMIZ2, ATF7IP, BCL11A, BTN2A1, CEP192, CHST10, CYP2D7, LARGE1, LONRF2, MYBPHL, NIMNAT2, NT5DC2, OR12D2, PCDH17, PGPEP1, PPP3R1, RBFOX1, SEMA3F, SFMBT1, SHISA9, SPPL2A, TNRC6A, TRIM31, TRIM37, TRIM40, TUBA1C, ZNF638, ANKRD45, ARFGEF2, CCDC85A, COL16A1, MACROD2, NKIRAS1, PHACTR3, SLC17A1, SLC4A10, ST3GAL3, SULT1A1, TINAGL1, TSNARE1, ARHGAP27, POM121L2, LOC102723373

## Characteristics and Traits

### Success and Talents

#### Information Processing Power



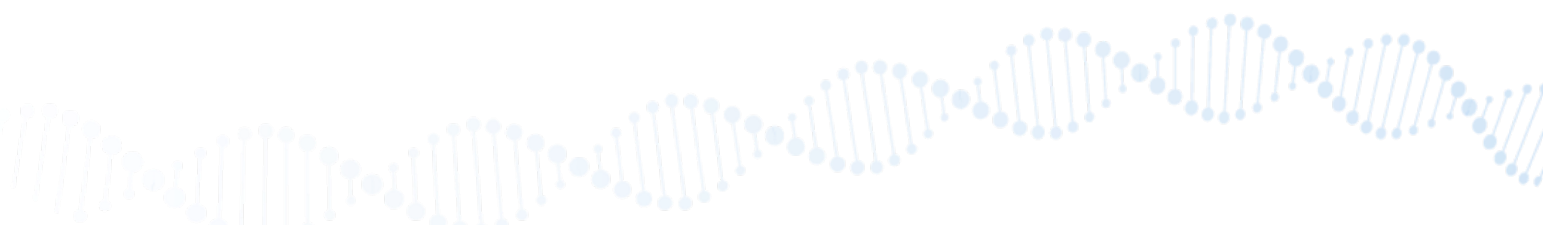
#### Explanation:

Your Information processing power is excellent.

#### Detected Genes:

DRD2, IRX6, PAX3, CADM2, CNTN5, CRT3, DCDC2, DNAI2, MYRIP, ATRNL1, SPATA7,  
FAM110C, TMEM245

**SAMPLE REPORT**



## Characteristics and Traits

### Success and Talents

#### Entrepreneurship Tendency (AQ)

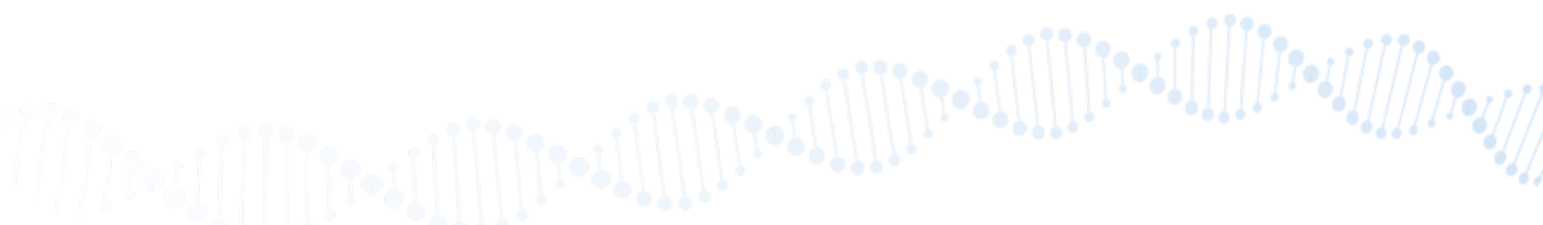


#### Explanation:

Your Entrepreneurship tendency is gifted.

#### Detected Genes:

CKB, DCC, SP4, AFF3, BDNF, CDH4, CDH8, CLN3, COMT, DRD2, DYSF, EFL1, EXD2, GATB, GBF1, GMPR, KYNU, LDB2, MAPT, MYLK, NAV2, PEF1, PELO, PPA2, PURG, RAI1, ROR2, SDC3, SGCZ, SND1, SYT1, TANK, TBX3, TET2, VRK2, WNT3, XPO4, AKAP6, ANKK1, APIG1, ATXN1, AUTS2, BANK1, BRWD1, CADM2, CD177, CD180, CPEB1, CRHR1, CYHR1, DCDC2, EIF4E, ESRRG, EXOC4, FKBP5, FLOT1, FOXO3, FOXPI, FSTL4, GNAT1, IGSF1, KALRN, KCNH7, KCNJ3, KMT2D, LRRN1, MEF2C, MTCH2, NEG1, NR1D2, NR3C1, NR3C2, PCGF3, PDE4D, PREX1, PRKD1, PRLHR, PSMA5, PTPRF, RALYL, RPTOR, SCMHI, SH2B1, SRPK2, TENM4, TSHZ3, TTBK1, WDR17, XYLT1, ZMIZ2, AKAP13, ATF7IP, BCL11A, BTN2A1, CEP192, CHST10, CYP2D7, FNBP1L, GABRA1, GNPDA2, GOLGA3, LARGE1, LONRF2, MAP3K5, MRPL32, MYBPHL, NMNAT2, NT5DC2, OR12D2, PCDH17, PGPEP1, PPP3R1, PRSS38, RFXO1, SEMA3F, SFMBT1, SHISA9, SNAP91, SORCS1, SPPL2A, TNRC6A, TRIM31, TRIM37, TRIM40, TSPEAR, TUBA1C, ZNF638, ANKRD45, ARFGEF2, CCDC85A, COL16A1, IGF2BP1, MACROD2, NKIRAS1, PHACTR3, SLC17A1, SLC4A10, SLCO4C1, ST3GAL3, SULT1A1, TINAGL1, TSNARE1, TXNDC16, ADAMTS20, ARHGAP27, HLA-DPA1, POM121L2, LINC00693, LOC102723373



# Health Profile and Advice

SAMPLE REPORT



# Lifestyle

SAMPLE REPORT





# Lifestyle

## Diet

Sweet Tooth



Weight Regain



Fat Sensitivity



Salt Sensitivity



Spice Sensitivity



Taste Sensitivity



Alcohol Sensitivity



Lactose Intolerance



Caffeine Sensitivity



Celiac Predisposition



Carbohydrate Sensitivity



SAMPLE REPORT







## Lifestyle

## Diet

Theophylline Sensitivity



Detox: Toxin Generation Speed



Detox: Cruciferous Vegetable Needs



**SAMPLE REPORT**

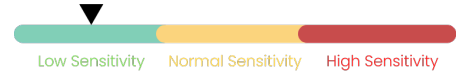




## Lifestyle

## Pollution

Pesticide Sensitivity



Dust Allergy Sensitivity



Second-Hand Smoke Sensitivity



Automobile Pollution Sensitivity



Environment Pollution Sensitivity



**SAMPLE REPORT**





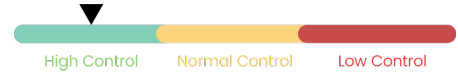
# Lifestyle

## Well-being

Life Longevity



Appetite Control



Metabolic Response



Bone Mineral Density



Stress Fracture Risk



Inflammatory Response



Tendency for Mosquito Bites



SAMPLE REPORT





# Lifestyle

## Stress & Sleep

Sleep Depth



Sleep Quality



Sleep Duration



Sleep Movement



Stress Tolerance



Sleep Apnoea Risk



Stress-Induced Obesity



Sleep Time (Chronotype)



SAMPLE REPORT





# Lifestyle

## Skin and Beauty

Skin Age



Acne Risk



Sunburn Risk



Stretch Marks



Glycation Risk



Keloid Scars Risk



Cellulite Formation



Skin Photoaging Risk



Oxidative Stress Risk



Hyperpigmentation Risk



Skin Bruising Tendency



SAMPLE REPORT





## Lifestyle

## Skin and Beauty

Skin Hydration Ability



Wrinkle Formation Risk



Skin Lightening Ability



**SAMPLE REPORT**





# Lifestyle

## Sports and Fitness

Blood Flow



Water Loss



Injury Risk



Power Capacity



Body Composition



Strength Profile



Lactate Clearance



Endurance Capacity



Fatigue Resistance



Lactate Production



Recovery Efficiency



SAMPLE REPORT





## Lifestyle

### Sports and Fitness

Oxygens / VO2 Efficiency



Risk of Achilles Tendon Injury



Heart Rate Response to Exercise



Exercise Associated Muscle Cramps



Risk of Anterior Cruciate Ligament Rupture



SAMPLE REPORT







# Lifestyle

## Vitamins and Minerals

Iron



Zinc



Iodine



Calcium



Selenium



Magnesium



Vitamin A



Vitamin C



Vitamin D



Vitamin E



Folic Acid



SAMPLE REPORT





# Lifestyle

## Vitamins and Minerals

Phosphorus



Vitamin B2



Vitamin B6



Vitamin B12



Antioxidants



Omega-3 (ALA)



Omega-3 (DHA)



Omega-3 (DPA)



Omega-3 (EPA)



SAMPLE REPORT



## Lifestyle

### Diet

#### Sweet Tooth



#### Explanation:

A sweet tooth is a tendency to like eating sweet things. Based on your genes, you may have a lower preference for sweet things than the general population.

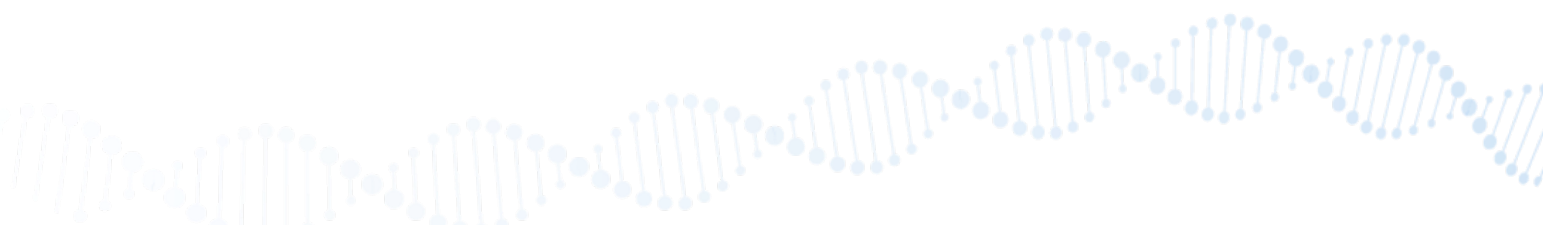
#### Recommendations:

A lower preference for a sweet thing may benefit health because you prefer to consume sugar lower than usual.

#### Detected Genes:

CPTP, TAS1R2

**SAMPLE REPORT**



## Lifestyle

## Diet

## Weight Regain



### Explanation:

Weight regain is how fast your weight returns to normal after weight reduction from your body metabolism. You are likely to have a low risk of regaining weight (weight rebound). You may gain weight slower than others.

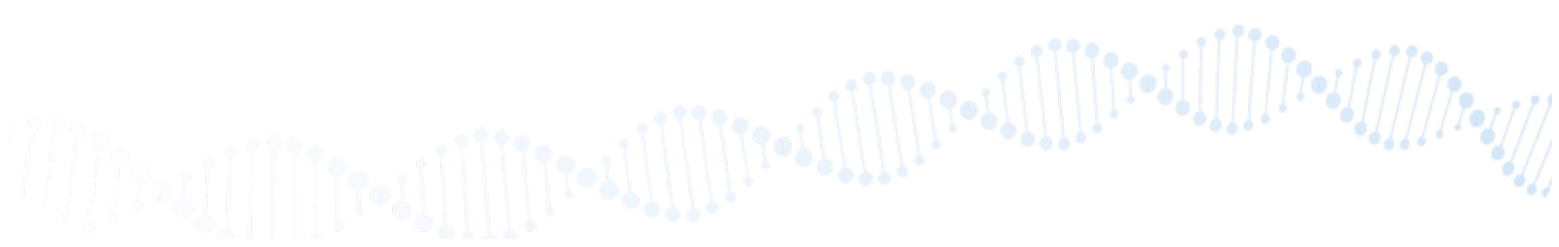
### Recommendations:

Regardless of any risk, even though your weight is average, you should engage in at least 150 minutes per week of accumulated moderate-intensity physical activity, such as brisk walking, jogging, cycling, lap swimming, etc., or 75 minutes per week of vigorous-intensity aerobic physical exercise (or an equivalent combination of moderate and vigorous activity) such as running, aerobic dancing, jumping rope, etc. This will prevent you from many serious diseases especially cardiovascular disease.

### Detected Genes:

FTO, BDNF

SAMPLE REPORT



## Lifestyle

## Diet

### Fat Sensitivity



#### Explanation:

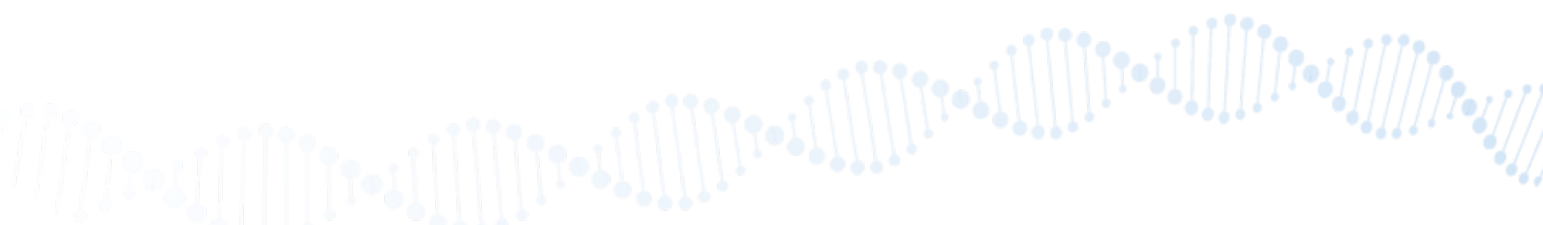
Fat sensitivity is a sensitivity between your body's metabolism and fatty acids or a component of dietary fat in foods. Based on your genes, you have normal sensitivity. Your body can metabolize fat compared to the general population.

#### Recommendations:

Regardless of any fat sensitivity, you should monitor your fat consumption daily. It can accumulate in your body and cause health problems and many serious diseases such as obesity, hyperlipidemia (high blood cholesterol), and cardiovascular disease. The dietary reference intake (DRI) for fat in adults is 20% to 35% of your total calories and prefers unsaturated fat. That is about 44 grams to 77 grams of fat per day if you eat 2,000 calories a day.

#### Detected Genes:

FTO, ADRB2, FABP2, PPARG, TCF7L2



## Lifestyle

## Diet

### Salt Sensitivity



#### Explanation:

Salt consists of sodium. Salt sensitivity is a sensitivity of your body's metabolism that responds to salt or sodium intake. Based on your genes, you have normal sensitivity.

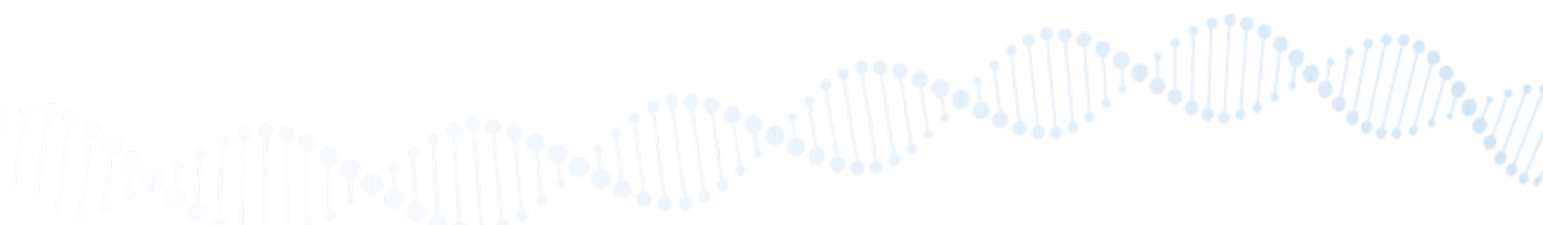
#### Recommendations:

Regardless of any salt sensitivity, you should limit your dietary salt to not more than 5 grams (i.e., 2,000 milligrams of sodium) per day. High salt intake can cause many health problems, especially hypertension (high blood pressure) and kidney disease.

#### Detected Genes:

ACE, AGT

**SAMPLE REPORT**



## Lifestyle

## Diet

### Spice Sensitivity



#### Explanation:

Spice sensation is a painful sensation that occurs by direct contact with a substance called Capsaicin, creating the feeling of excessive heat in the contact area. Based on your genes, you have normal sensitivity.

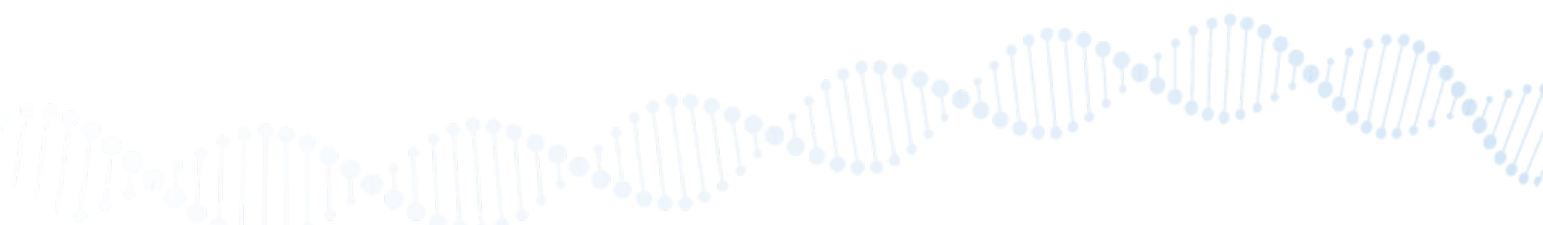
#### Recommendations:

As usual, you can eat spicy food, but please consider limiting it too because spicy food usually contains many seasonings, including salt or sodium.

#### Detected Genes:

TRPV1

**SAMPLE REPORT**



## Lifestyle

## Diet

### Taste Sensitivity



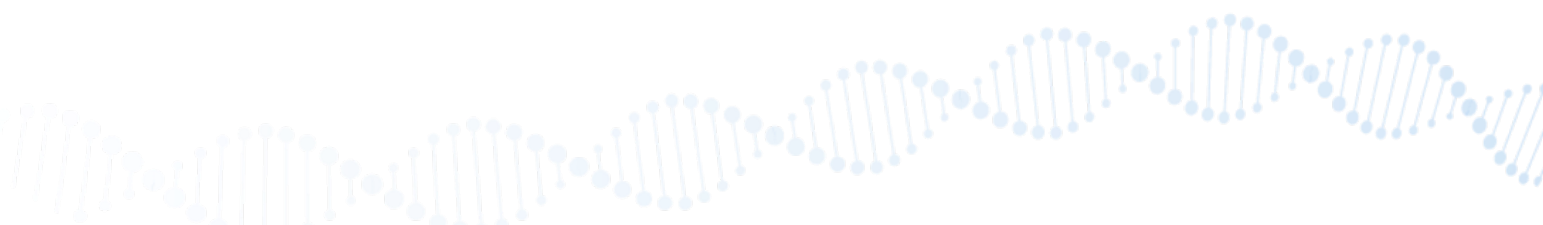
#### Explanation:

Taste sensitivity is the minimum concentration at which the body can perceive a specific taste quality, such as sweet, sour, salty, or bitter. Based on your genes, you may have less sensitivity to some tastes.

#### Recommendations:

This may be important because some food tastes can influence the eating behavior of individuals. You are likely to have a low taste sensitivity. For example, bitter foods taste less painful, and sweet foods taste less sweet. You should not have too much strong taste food due to the high concentration of seasoning inside, and it can also cause addiction.

**SAMPLE REPORT**





## Lifestyle

### Diet

### Alcohol Sensitivity



#### Explanation:

Alcohol sensitivity is a genetic condition that indicates how well your body can break down or metabolize alcohol after consumption. Low alcohol sensitivity can be referred to as an ability to consume larger amounts of alcohol than others before you feel its effects (get drunk) or develop alcohol intoxication. This may encourage greater alcohol consumption in some individuals and cause alcoholism.

#### Recommendations:

Please consume alcohol carefully. People with low alcohol sensitivity are more prone to develop alcoholism because they can consume it more than others. They are at risk for complications related to how much alcohol they have consumed in a lifetime, including cirrhosis of the liver, brain disease, pancreatitis, some cancer, or other health problems. According to the latest dietary guidelines for Americans, you should limit alcohol intake to 2 drinks or less in a day for men and 1 drink or less in a day for women.

A standard drink equals 14.0 grams (0.6 ounces) of pure alcohol. For example,

- 12 ounces of beer (5% alcohol content)
- 8 ounces of malt liquor (7% alcohol content)
- 5 ounces of wine (12% alcohol content)
- 1.5 ounces or a "shot" of 80-proof (40% alcohol content) distilled spirits or liquor (e.g., gin, rum, vodka, whiskey)

Remember, drinking less is better for your health than drinking more.

**Fact:**

Alcohol intolerance is caused by inherited (genetic) traits most often found in Asians.

Is alcohol intolerance the same as an alcohol allergy?

People often confuse alcohol intolerance with an alcohol allergy, but they aren't the same condition.

Alcohol intolerance is a genetic metabolic disorder of the digestive system. Your body doesn't process alcohol the way it should.

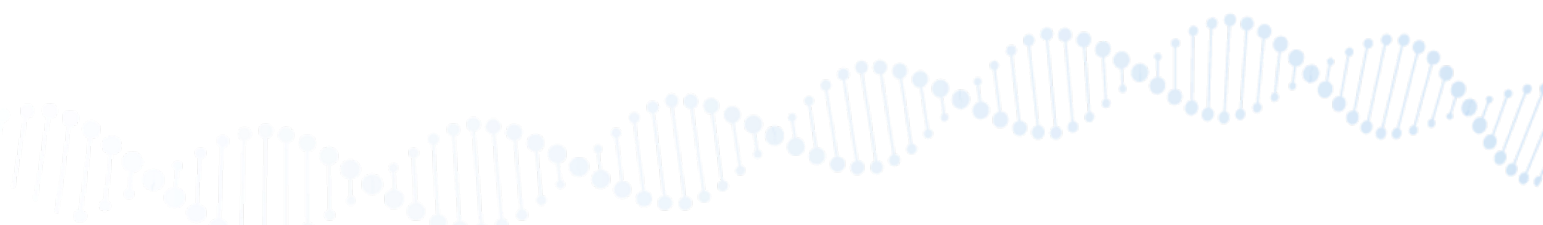
Alcohol allergy is an immune system response — your immune system overreacts to an ingredient in alcohol. You may be allergic to one of the substances in alcohol (a chemical, grain, or preservative, such as sulfite).

Does Drinking More Alcohol Increase Your Tolerance?

Drinking more alcohol can increase alcohol tolerance. The human body can adapt to increased alcohol use, resulting in more rapid metabolism of alcohol. A more rapid metabolism means that those who drink alcohol regularly can seem less intoxicated than others who have consumed a similar amount of alcohol.

**Detected Genes:**

ADH1B, ADH1C, ALDH2



## Lifestyle

## Diet

### Lactose Intolerance



#### Explanation:

Lactose intolerance is a common digestive problem in that the body cannot digest lactose, a type of sugar mainly found in milk and dairy products. Based on your genes, your body is tolerant to lactose.

#### Recommendations:

You do not have lactose intolerance. You can consume milk and dairy products as usual. The latest dietary guidelines for Americans recommend that individuals aged 9 years and over consume three cup-equivalents of fat-free and low-fat (1%) dairy products, significantly higher than the adult average of 1.6 servings per day. Last updated data in 2020 from NEJM (New England Journal of Medicine) has shown that the health benefits of dairy products have not been established, and concerns exist about the risks of regular consumption. It depended on the foods or beverages to which they were compared. In many studies, dairy foods are better when compared to processed red meat or sugar-sweetened drinks but less beneficial when compared to plant-protein sources such as nuts.

#### Detected Genes:

MCM6

SAMPLE REPORT



## Lifestyle

### Diet

#### Caffeine Sensitivity



#### Explanation:

Caffeine sensitivity is how fast your body metabolizes caffeine. If you have low caffeine sensitivity, your body may obtain the effect of it harder and slower than others. People with low caffeine sensitivity are less likely to experience an adrenaline rush and side effects when they consume it, even at high doses.

#### Recommendations:

Even though you have low caffeine sensitivity, you should limit your caffeine consumption. The latest data in 2020 from NEJM (New England Journal of Medicine), reviewed from a large body of evidence, suggests that consuming 3 to 5 standard cups of coffee daily has been consistently associated with a reduced risk of several chronic diseases. However, high caffeine intake can have various adverse effects. Limits of 400 mg of caffeine per day for adults who are not pregnant or lactating and 200 mg per day for pregnant and lactating women have been recommended. It still has shown that consumption of caffeinated coffee, the primary source of caffeine intake in adults in the United States, does not increase the risk of cardiovascular diseases and cancers.

Current evidence does not warrant recommending caffeine or coffee intake for disease prevention but suggests that moderate consumption of coffee or tea can be part of a healthy lifestyle for adults who are not pregnant or lactating and do not have specific health conditions.

**Fact:**

How much caffeine is contained in each of your favorite coffee menus?

- Brewed coffee or filter coffee: An 8-oz cup of brewed coffee typically contains around 95 mg
- Cold brew coffee: 12-oz cup of cold brew coffee can contain between 153 mg and 238 mg of caffeine.
- Instant coffee: Instant coffee usually contains less caffeine than freshly brewed coffee. A typical 8-oz cup of regular instant coffee contains about 62 mg of caffeine.
- Espresso: A single 1-oz shot of espresso contains approximately 63 mg of caffeine.

Source: USDA Food Composition Databases

The caffeine content of popular coffee brands

Dunkin' Donuts

The caffeine content of a medium cup (14 oz) of some of the coffee drinks on offer at Dunkin' Donuts is as follows:

- brewed coffee: 210 mg
- decaf brewed coffee: 10 mg
- Americano: 249 mg
- cold brew: 260 mg
- latte: 119 mg

Starbucks

The caffeine content of a tall cup (12 oz) of some of Starbucks' beverages is as follows:

- Pike Place roast: 235 mg
- decaf Pike Place roast: 20 mg
- cold brew with cold foam: 155 mg
- caramel macchiato: 75 mg
- cappuccino: 75 mg

SAMPLE REPORT

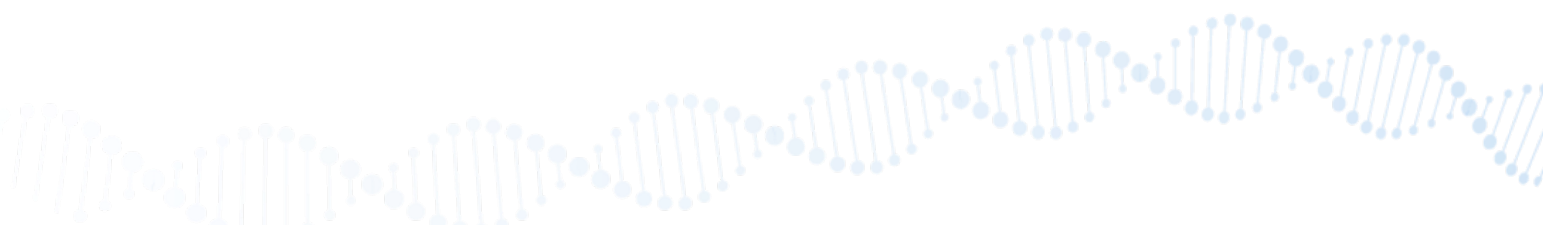




**Detected Genes:**

VDR, CYP1A2

**SAMPLE REPORT**



## Lifestyle

## Diet

### Celiac Predisposition



#### Explanation:

Celiac disease is an autoimmune disease that occurs in genetically predisposed people who ingest gluten usually found in wheat (including related wheat species and hybrids such as spelt), barley, rye, and many other grain products. Based on your genes, you have a normal predisposition to Celiac disease. This suggests that you are likely able to digest gluten proteins normally.

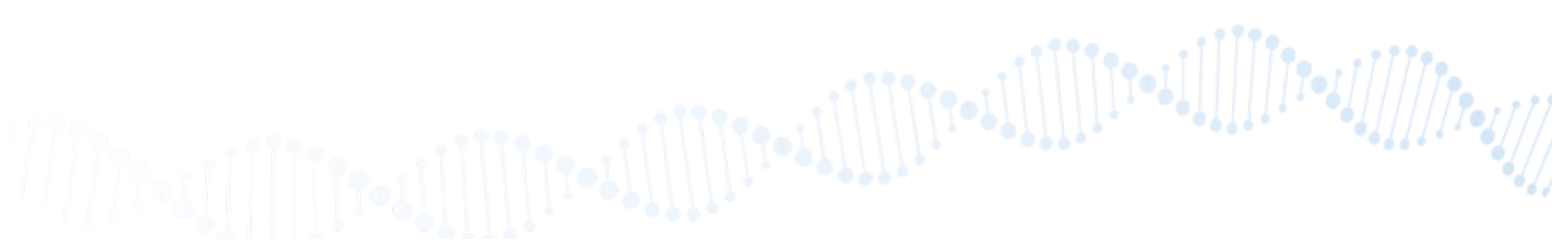
#### Recommendations:

You can consume gluten and its product as usual.

#### Detected Genes:

HLA-DRA, HLA-DQA2, HLA-DQB1

SAMPLE REPORT



## Lifestyle

### Diet

#### Carbohydrate Sensitivity



#### Explanation:

Carbohydrate sensitivity is how effectively your body metabolizes carbohydrate to your body's energy or store it after you consume them. Based on your genes, you have normal sensitivity.

#### Recommendations:

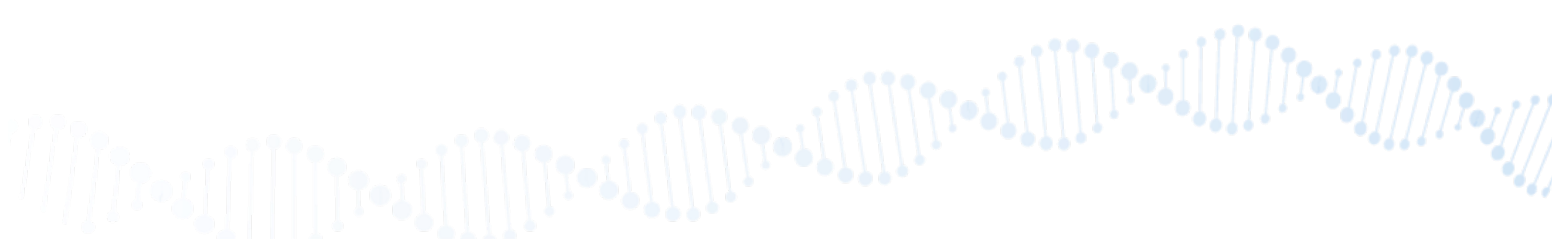
Regardless of any carbohydrate sensitivity, you should monitor your carbohydrate consumption daily because it can accumulate in your body and cause health problems and many severe diseases such as obesity, diabetes type 2, and cardiovascular disease.

According to the latest dietary guidelines for Americans, proper carbohydrates intake is 45% to 65% of your total daily calories. If you get 2,000 calories a day, between 900 and 1,300 calories should be from carbohydrates.

#### Detected Genes:

ACE, ADRB2, FABP2, PPARG, TCF7L2

SAMPLE REPORT





## Lifestyle

## Diet

### Theophylline Sensitivity



#### Explanation:

Theophylline is a caffeine byproduct produced in your body during the metabolic process. It is found naturally in the highest concentrations in green and black tea. It can be produced by chemical synthesis and used as a medication for some diseases. People with low theophylline sensitivity may have symptoms such as headaches and dizziness after taking it too much.

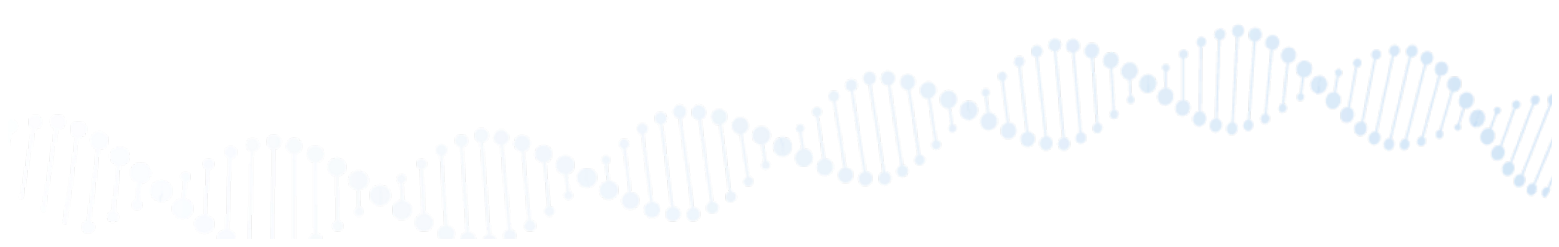
#### Recommendations:

Even though you have low theophylline sensitivity, it would be challenging to get that amount of the phytochemical just from tea or foods alone, as they only contain small amounts of theophylline. So, you can consume it as usual, but do not consume it too much. There is no evidence or reference about how much you can drink daily now.

#### Detected Genes:

ARID3B

SAMPLE REPORT



## Lifestyle

### Diet

#### Detox: Toxin Generation Speed



#### Explanation:

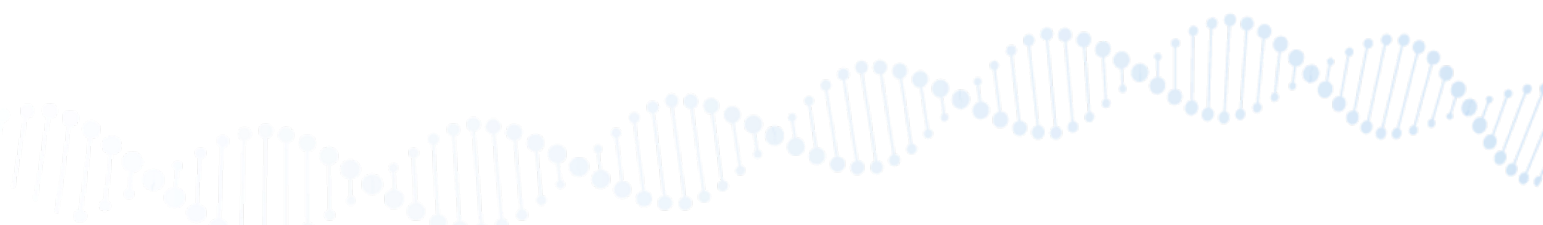
Our body can generate toxins from smoked food in some metabolite processes. People who have low toxin generation speed may be predisposed to create lower amounts of potentially harmful chemicals from smoked foods that can damage DNA and proteins in your cells, possibly leading to serious health problems or diseases in the future than others.

#### Recommendations:

Regardless of any toxin generation speed, you should limit your smoked food consumption because most studies have shown that smoked food could cause many health problems and cancers. You should cook your food at lower temperatures, such as boiled or stewed, significantly reducing toxic compound formation.

#### Detected Genes:

EPHX1, CYP1A2



## Lifestyle

## Diet

### Detox: Cruciferous Vegetable Needs



### Explanation:

Most phytochemicals in cruciferous vegetables play a vital role as an antioxidant in the detoxification process in your body. You may need cruciferous vegetables lower than others to complete this process based on your genes.

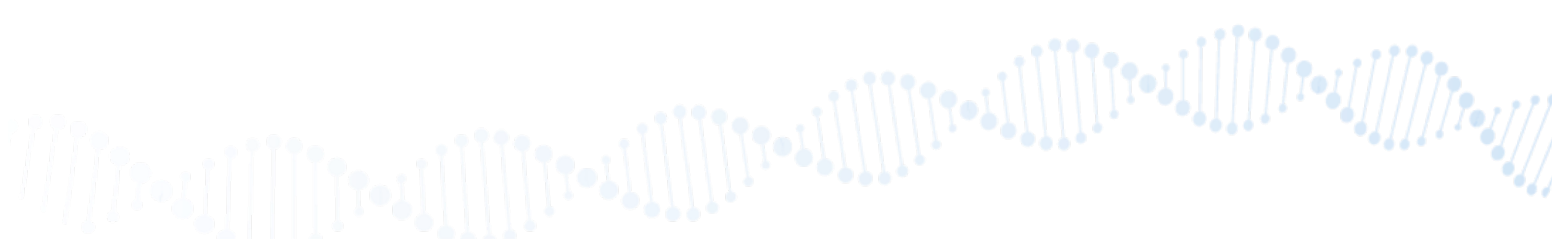
### Recommendations:

Lower cruciferous vegetable needs do not mean that you should limit your vegetable consumption. People who eat more vegetables are likely to have a reduced risk of some chronic diseases.

### Detected Genes:

GSTM5, GSTP1

SAMPLE REPORT



## Lifestyle

## Pollution

### Pesticide Sensitivity



#### Explanation:

Pesticides are typical compounds used on crops to prevent insects or infections from ruining them. Pesticides can harm your health, especially if they are ingested. If an animal eats pesticide-sprayed vegetables, the toxins become part of the animal's muscle tissue. The chemical invades any animal that eats the animal. It's called bioaccumulation. Unfortunately, exposure to these pesticides increases our risk of neurological illnesses like Parkinson's (PD). Pesticides can also cause serious health effects like heart failure, renal failure, lung damage, vomiting, nausea, abdominal pain, and diarrhea.

Your genetic result indicates a lower vulnerability to pesticides. Pesticides increase your risk of respiratory, neurological, and gastrointestinal issues.

We evaluated the CYP2B6 gene for its known connections with major DNA repair mechanisms in cells. Parkinson's disease is more likely to occur in people with genetic abnormalities and excessive pesticide exposure. This is because these insecticides harm the body's DNA repair system. In other words, persons with specific genetic changes are more sensitive to the consequences of exposure than people without them.



**Recommendations:**

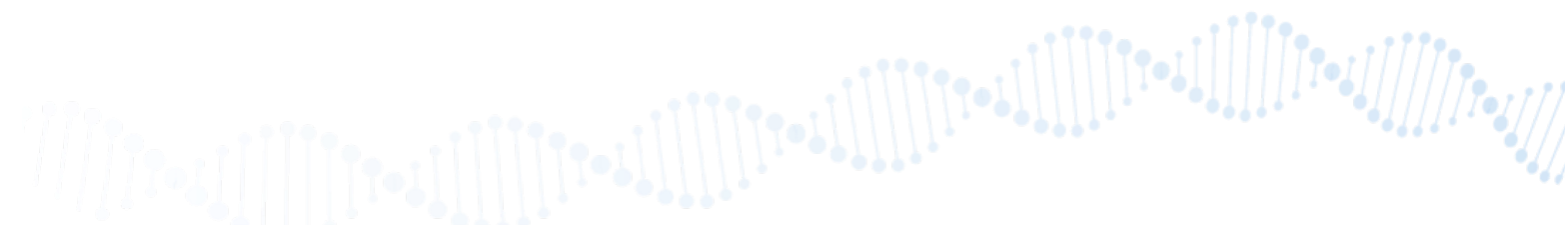
To reduce your risk exposure.

1. If you've been exposed to a pesticide, wash it off with lots of soap and water. This will help it stay out of your cells.
2. Wash all produce thoroughly before eating to prevent pesticide intake and buy organic and locally grown produce.
3. Utilise non-toxic pest control measures in the house and garden.

**Detected Genes:**

CYP2B6

**SAMPLE REPORT**



## Lifestyle

## Pollution

### Dust Allergy Sensitivity



#### Explanation:

Dust mite allergy is a type of allergy that occurs when a person is allergic to mites that reside in the dust. Based on your genetic results, Dust Mite Allergy is less likely to affect you. As a result of being exposed to high dust mites, you are less likely to suffer from severe symptoms, such as continuous sneezes and coughs and facial pressure, eczema flare-ups, and severe asthma attacks.

#### Recommendations:

Dust mites are too small to observe without a microscope. Dust mites feed on human skin cells and flourish in warm, humid settings. Dust mites thrive in beds, upholstered furniture, and carpeting in most homes.

Dust mite allergies can be controlled by reducing the amount of dust mites in your environment. Medications or other therapies are occasionally required to manage asthma symptoms.

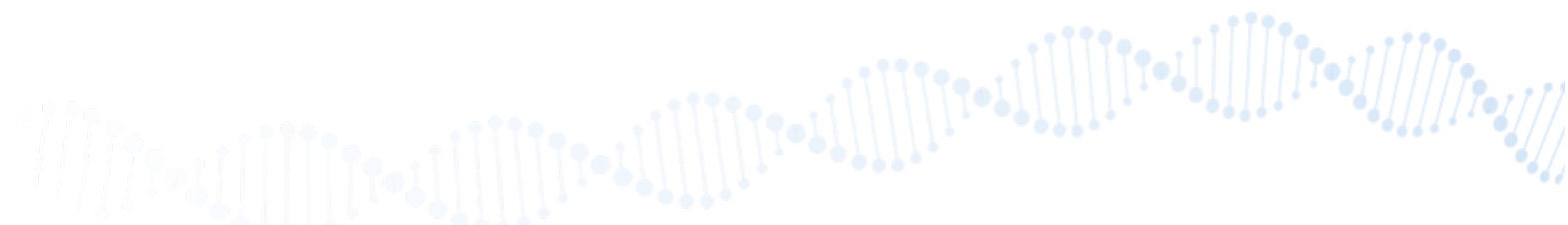
To reduce your risk exposure.

1. Keep it neat. Regular cleaning and vacuuming can help reduce dust mites, pollen, animal fur, and other allergens.
2. Use a dehumidifier to reduce the humidity in your home and prevent bacteria and mold growth. Indoor air quality and relative humidity of 30–50 percent are ideal.
3. Chronic exposure to a biological allergen usually causes allergic responses. This means you could develop an allergy to something you hadn't before. If you have an allergic reaction, we strongly advise you to see a doctor immediately.

**Fact:**

Each year, the WHO estimates that up to 4 million people die prematurely from illnesses caused by indoor air pollution. This is responsible for poor cooking habits, as people utilize polluting stoves filled with kerosene, wood, and coal. Other than inefficient cooking and heating, underlying risk factors including tobacco, pesticides, and household cleaners contribute to this.

**SAMPLE REPORT**



## Lifestyle

## Pollution

### Second-Hand Smoke Sensitivity



#### Explanation:

Secondhand smoke (SHS) is the poisonous waste from burning tobacco products like cigarettes, cigars, pipes, or hookahs. Nonsmokers exposed to SHS involuntarily smoke and inhale the same hazardous substances as smokers.

Mutations in numerous genes may also contribute to the loss of lung function in SHS victims. Secondhand smoking has severe effects on everyone, but it is especially harmful to people with genetic abnormalities that make them more susceptible. Chronic obstructive pulmonary disease (COPD) is a chronic lung disease that causes dyspnea and may raise your risk of serious illnesses. According to the Global Burden of Disease Study, there were 251 million cases of COPD in 2016. This number is expected to have risen due to increased smoking among older populations in many countries. However, most COPD instances can be avoided or delayed by quitting smoking.

You are genetically predisposed to be less sensitive to pollution. This means you are less likely to develop impaired lung function or respiratory disorders from exposure to pollution.

Since *KCNH1* is highly expressed in epithelial sections of human lung cells, a genetic mutation in this gene could change its activity. When exposed to ambient cigarette smoke, people with the mutation may have reduced lung function.





## Recommendations:

To reduce the risk of exposure.

1. Children are more likely to be exposed to secondhand smoking at home than in other locations. Ascertain that your home and vehicle stay smoke-free. Avoid smoking in enclosed public spaces and advise your children to avoid secondhand smoke and smoking in general.
2. To help mitigate the effects of secondhand smoking, consider installing high-efficiency particulate air (HEPA) filters in your home – or at the very least in particular rooms. These are effective in filtering out airborne pollutants.
3. Green tea, ginger, and turmeric all have anti-toxin qualities. In addition, these elements' herbal components have been found to reduce carcinogen activity in cigarette and ambient smoke efficiently.

## Fact:

What's in Secondhand Smoke?

Tobacco smoke is associated with over 4,000 toxic chemical compounds such as:

- ☒ Benzo[a]pyrene – found in coal tar.
- ☒ Formaldehyde – is used to preserve dead animals.
- ☒ Hydrogen cyanide – used in rat poison.
- ☒ Ammonia – used in floor and toilet cleaning products.

Secondhand smoke causes approximately 7,330 deaths from lung cancer and 33,950 deaths from heart disease each year.

## Detected Genes:

GRIK3, KCNH1, PDSS2, SNX31



## Lifestyle

## Pollution

### Automobile Pollution Sensitivity



#### Explanation:

Cars, trucks, motorcycles, and other vehicles release harmful gases like carbon monoxide and sulfur dioxide. In addition, traffic-related pollution pollutes the air. Chronic exposure increases the risk of lung, and cardiovascular disorders, including coronary artery disease, peripheral arterial disease, and cardiac arrest.

Based on your genetic results, you are more likely to have a lower sensitivity to gases and fumes emitted from vehicles. This means you are less likely to be susceptible to lowered lung function when exposed to automobile pollution.

We investigated genes like TMEM176A that are substantially expressed when exposed to gases and pollutants. As a result of air pollution, these genes are linked to inflammatory processes. This can cause gene dysregulation, impaired lung function, and increased asthma susceptibility.

#### Recommendations:

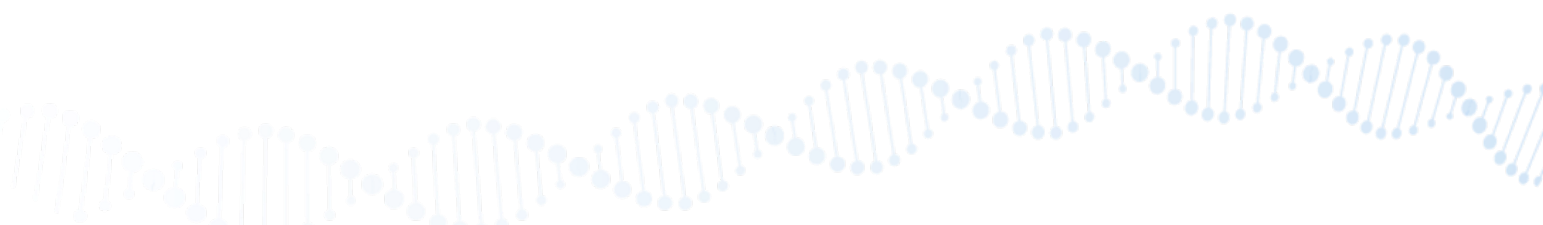
To reduce your risk exposure.

1. Avoid heavy traffic and industrial locations if possible; if this is not possible, ensure that your car windows are closed to keep fumes out or wear a face mask.
2. Avoid exposure to indoor air pollution (including cooking and heating with solid fuel) and outdoor air pollution.
3. Avoid exercising or socializing outside when pollution levels are high. When the



weather is unpleasant, go shopping, to the gym, or use home fitness equipment.

**SAMPLE REPORT**



## Lifestyle

## Pollution

### Environment Pollution Sensitivity



#### Explanation:

Pollution exposure is a primary cause of respiratory illnesses. Occupational dust is a significant source of environmental pollution because it occurs in agriculture, forestry, construction, and even the office. Without adequate safety precautions, exposure to environmental dust can result in respiratory disorders such as asthma or allergies. In addition, when occupational dust is inhaled in conjunction with smoking, there is a considerable decline in lung health.

Genetic predisposition is likely to influence how your body responds to external air pollution, particularly biological systems involved in oxidative stress and inflammatory pathways.

Your genetic data demonstrate that you have a lower sensitivity to pollutants. This means you are less likely to develop impaired lung function or respiratory disorders from exposure to pollution.

We evaluated genes like ZMAT4 and GALNT13 linked to lower lung function and FEV (forced exhalation volume) after exposure to mineral dust. A hereditary mutation in this gene could reduce lung function, producing systemic disorders (including blindness and acute lung injury) from increased exposure to mineral dust and pollutants.

**Recommendations:**

To reduce your risk exposure.

1. Keep an eye out for the government's daily Air Quality Index (AQI), which indicates how filthy the air is. If the AQI is excessively high, avoid particular areas or walk outside. Wear a face mask to avoid inhaling dangerous dust.
2. Ensure personal hygiene after work and before eating to avoid dust contamination. Cleaning your hands and under your nails is included in showering and washing your hair.
3. Minimize or eliminate dust and particle matter exposure at your workplace. Wear personal protective equipment (PPE) to avoid particle dangers.

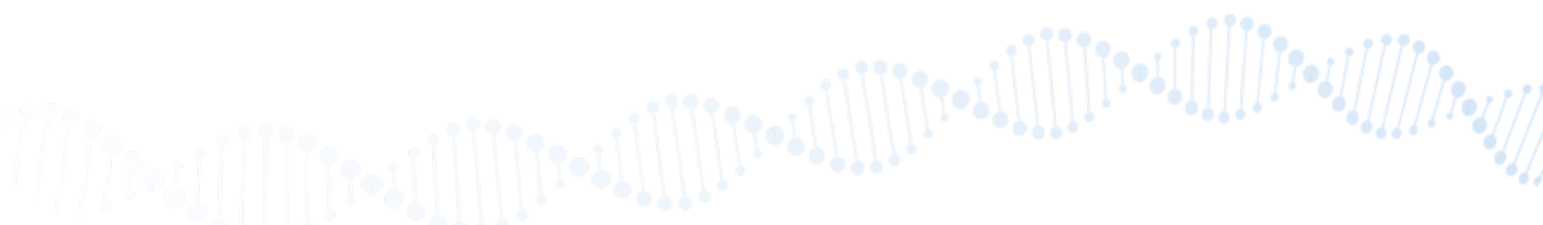
**Fact:**

Indoor air pollution may be 2 to 5 times worse than outdoor air pollution

**Detected Genes:**

ZMAT4, GALNT13

**SAMPLE REPORT**



## Lifestyle

## Well-being

## Life Longevity



### Explanation:

Life longevity, or the duration of human life, is influenced by genetics, environment, and lifestyle. While healthy behaviors such as eating a balanced diet, exercising regularly, and abstaining from tobacco and alcohol are beneficial for long-term health, various 'longevity' genes can improve life expectancy. Knowing more about your genetic results can help provide you with the knowledge necessary to combat aging and disease by demonstrating how to apply preventative actions that will enable you to live a healthier, longer life.

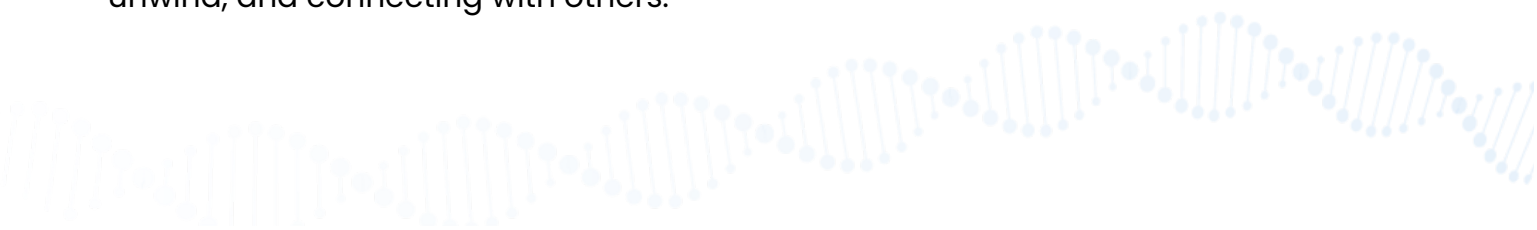
You are likely to have an average life expectancy based on your genetic results. However, life expectancy is a feature that is strongly impacted by lifestyle factors.

### Recommendations:

Ways to maximize your longevity

1. Eat a balanced diet to meet your daily macro- and micronutrient requirements. Vitamins, minerals, and antioxidants are critical for maintaining cellular health.
2. Incorporate physical activity into your everyday activities. Take the stairs, ride your bicycle to work, or even establish a home gym. Research indicates that moderate exercise, when practiced regularly, can roll back the clock on your DNA.
3. Get sufficient sleep - Most people function well when they get seven to nine hours per night.
4. Manage stress by taking deep breaths, taking care of your body, making time to unwind, and connecting with others.

SAMPLE REPORT



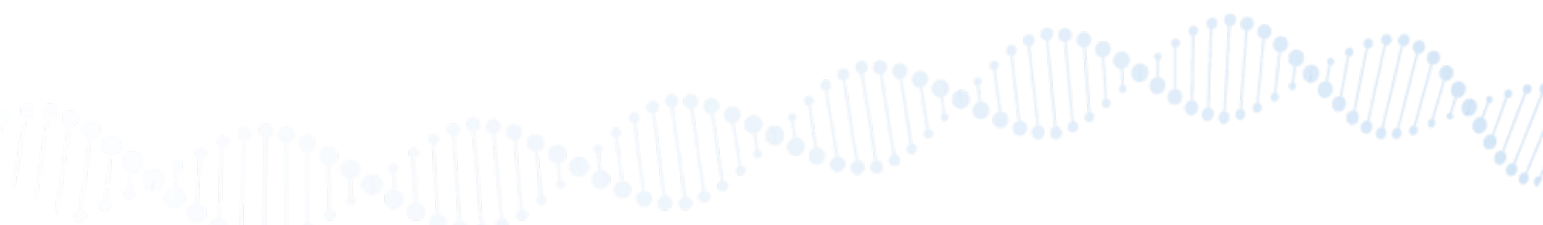
5. Avoid smoking or excessive drinking.
6. Manage stress by taking deep breaths, taking care of your body, making time to unwind, and connecting with others.

**Fact:**

Exercise, happiness, overall lifestyle, smoking and drinking habits, and hereditary factors contribute to longevity. The WEF recently revealed the countries with the longest life expectancy, with Hong Kong topping the list for women, followed by Japan and Spain, and Hong Kong, Switzerland, and Japan for men. According to the WEF, Hong Kong women live an average of 87.66 years and males an average of 81.70 years (making up a combined age of 84). Medical publications have highlighted that regular walking and the Cantonese custom of Tai Chi help keep people active into old age. In addition, most Hong Kongers eat healthful foods and drink tea. Heritable genetic factors may also be to blame.

**Detected Genes:**

IL6, BIN2, CTC1, HYKK, NCR2, PFKM, STN1, STUM, TERT, ACYP2, ASCC2, ASIC2, CAMK4, KRT80, SYT16, AKRIC3, CSRNP3, FAMI3A, LIMCH1, MBOAT1, PAPSS1, TRDMT1, CSNK2A2, SLC44A4, Tmprss7, ZFYVE28



## Lifestyle

## Well-being

### Appetite Control



#### Explanation:

##### Hunger and Your Body

Hunger is signaled by various hormones such as insulin, ghrelin, and leptin. Insulin is produced in the pancreas and permits cells to use blood sugar or glucose for energy. Leptin, produced by fat cells, reduces hunger. Ghrelin is a hormone that regulates hunger and body weight. These 'hunger hormones' govern your appetite and help you suppress the 'hungry urge', resulting in a healthy energy balance. Genetics, nutrition, exercise, and emotions are just an example of a variety of factors that might affect your hunger hormones and hence your appetite. Appetite regulation is vital for maintaining a healthy weight by regulating how much food and nutrients you ingest.

##### Consequences of Insufficiency in Appetite Control

Individuals with impaired appetite control, due to many of the factors involving, frequently experiences overeating. Overeating behavior may result in gain of weight or obese, increasing their risk of developing heart disease, high blood pressure, stroke, type 2 diabetes, and osteoarthritis.

Based on your genetic results, you are likely to have a higher appetite control. This suggests that you are less like to still feel hungry after eating a meal.



## Recommendations:

### What You Can Do to control your appetite

Portion controls are one of the many things you can do. Start by eating slowly, drink a glass of water before each meal, and consume a variety of fruits, vegetables, lean protein, and wholegrains. Beyond that, limiting high-fat and refined carbohydrate items intake, such as fried rice, chips, cakes, and pastries, could prevent additional intake of calories. Additionally, Exercise may help regulating your appetite by increasing concentrations of satiety hormones.

### What Can You Do?

1. Keep your consumption in check by paying attention to the portion sizes of your meals. Consume smaller, more nutrient-dense foods.
2. Include high-fiber and protein-rich meals in your diet to help you feel satiated for longer. Avoid processed carbs and foods high in fat.
3. Attempt to incorporate at least 30 minutes of exercise into your daily routine on most days.

### Fact:

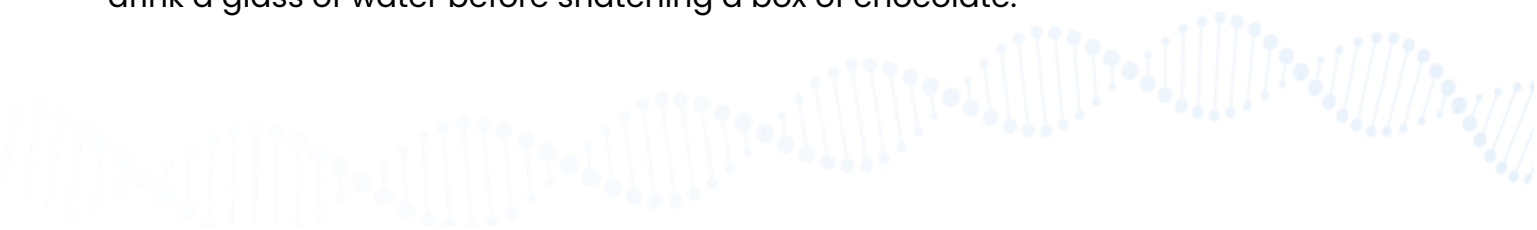
The meals we eat in a group are 33% larger than when we are alone! Avoid extra social eating and keep calories down.

Try eating off of a blue plate, place matt or table cloth to reduce appetite and eat less.

People who get less sleep eat 16% more than those that get a full restful nights sleep. 'Sleep more to eat less'

Drinking water might help suppress your appetite! Next time, if you are craving, try drink a glass of water before snatching a box of chocolate.

SAMPLE REPORT



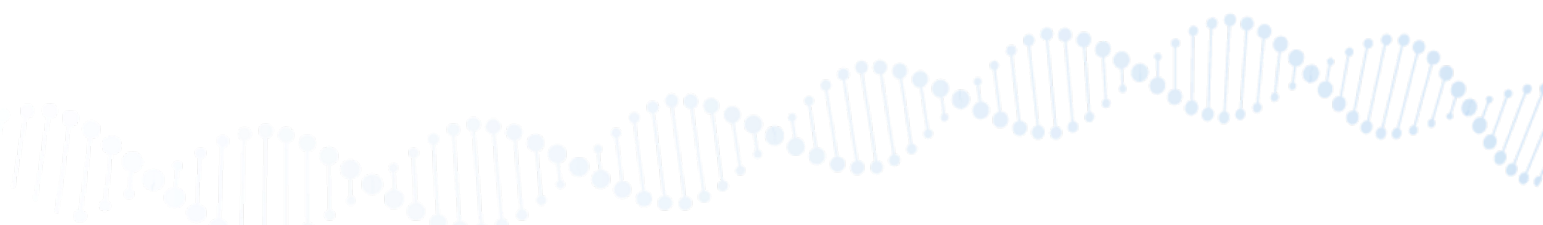


One gram of alcohol provides seven calories! Try not to couple alcohol drinks with your food oftenly!

### Detected Genes:

FTO

**SAMPLE REPORT**



## Lifestyle

## Well-being

## Metabolic Response



### Explanation:

The metabolic rate is the quantity of energy expended by the organism during a specific period. Your metabolism converts food into energy. At rest, your metabolic rate slows enough that you can still function normally. Conversely, being active raises your metabolic rate to keep up with your muscles' demands. Extra energy is stored in muscle tissue if you consume it. You will acquire weight if it is not utilized up. A woman's metabolic rate can be affected by genetics, muscle mass, and pregnancy.

A high metabolic rate can lead to several health issues. An increased metabolic rate (e.g., hyperthyroidism) can cause weight loss and muscle weakness. Conversely, a sluggish metabolic rate can lead to excess weight gain and tiredness. Understanding your metabolic response is crucial to weight maintenance. Knowing what raises and lowers your metabolic rate can help you avoid obesity, diabetes, and heart disease.

You are likely to have a normal metabolic response based on your genetic results. This indicates that your body burns calories at an average rate while at rest.



## Recommendations:

There are several effective methods for increasing your metabolisms, such as resistance or weight training. The more muscle mass you have, the more calories your body can burn. Additionally, exercising in the morning can provide a sustained energy boost for the remainder of the day.

### What Can You Do

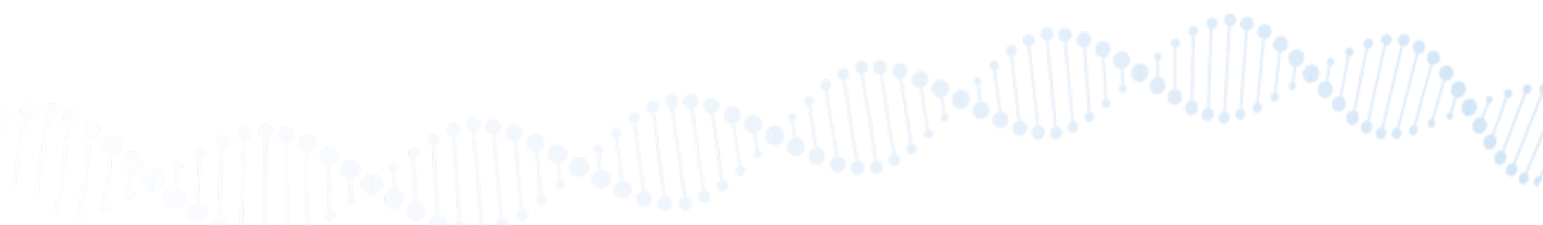
1. Maintain a balanced diet and eat intelligently by eating three smaller meals and two healthy snacks daily.
2. Maintain an active lifestyle and look for ways to increase your movement – such as taking the stairs up one or two floors rather than the elevator.
3. Limit your consumption of unhealthy foods heavy in saturated fats and processed sugar.

### Fact:

A calorie is a unit of energy used to quantify the amount of energy created during food digestion or expended during physical exercise. A calorie is defined technically as the amount of energy required to raise the temperature of one kilogram of water by one degree Celsius. In other words, 1 pound of human fat contains enough power to operate a 40-watt light bulb for more than six minutes!

### Detected Genes:

ADRB2



## Lifestyle

## Well-being

### Bone Mineral Density



#### Explanation:

Our bones contain calcium, phosphate, and a protein scaffold. BMD is the number of minerals in bone tissue. Like other cells in our bodies, bone breaks down and rebuilds. When bone loss outpaces bone regeneration, bones weaken, leading to osteoporosis and increased fracture risk. BMD is 72%–92% heritable; therefore, your results will likely mirror your parents'.

You are likely to have a regular bone mineral density based on your genetic results. This indicates that your risk of suffering a bone fracture or developing osteoporosis is comparable to that of the general population.

#### Recommendations:

Five ways to protect your bones

1. Exercise regularly
2. Eat foods that promote bone health
3. Don't smoke
4. Limit alcohol consumption
5. Consider taking medication

Additional information on foods promoting bone health -

Calcium, as well as vitamins C, D, and K, are required for strong bones. Low-fat dairy products are well-known calcium sources, and many are vitamin D fortified.

Non-dairy calcium sources include salmon, mackerel, tuna, sardines, white beans,

tofu, and plants such as kale, broccoli, spinach, and cabbage. If you do consume alcohol, limit yourself to one drink each day. Consumption of more than two alcoholic beverages per day significantly increases the risk of falling and bone loss.

**Fact:**

A mother's bone mineral density may decrease up to 2% while breastfeeding. When the baby is weaned, she regains this back with increased density protecting breastfeeding mothers from osteoporosis.

In 5–7 years following menopause, a woman can lose up to 20% of her bone density.

**Detected Genes:**

PYY, SP7, WLS, ANK3, CCR3, CPNI, CSF1, DDB2, DGKD, DLX5, DNM3, ESRI, EYA4, FMN2, GPC5, HIC1, IDUA, ING3, IQCH, JAG1, LRP5, MAPT, MBL2, MEPE, NAB1, NME8, PTX4, RERE, RGMA, RIN3, SMG6, SOX6, SPPI, TNKS, WNT4, XKR9, AXINI, CCZIB, CDCA7, CDK15, CKAP5, CPED1, CPT1A, DCDC1, DDX23, DUSP5, EPDR1, ESPL1, FUBP3, GRB10, HECW1, HPSE2, IL21R, JAZF1, KCNH1, LEKR1, MAG1, MARK3, MEF2C, MEOX1, OLFM1, PCNX2, PKDCC, PLCL1, PTCH1, RIC8B, RSPO3, SMAD9, SMOC1, SRP19, SSUH2, TACC2, TBPL2, TSHZ3, UHMK1, ANAPC1, CCDC34, CEP112, CEP120, CLDN14, CSRNP3, CTNNA2, CTNNB1, KCNMA1, NKAIN2, OR4C15, PDXDC1, PSMD13, RBFOX1, RSPH14, SAMSN1, SH3RF3, SLC8A1, SPTBN1, SUPT3H, TCF7L1, TOM1L2, TUBA1C, ZBTB40, ZNF154, ARHGAP1, CCDC170, CNTNAP5, CSNK1G3, CYP19A1, DYNCL1, FAM210A, FAM216B, GPATCH1, LDLRAD3, RPS6KA5, TMEM135, TNFSF11, TSPAN12, ZSCAN5A, ARHGAP25, C11orf49, C12orf54, TNFRSF11A, TNFRSF11B

SAMPLE REPORT



## Lifestyle

## Well-being

### Stress Fracture Risk



#### Explanation:

Stress fractures are microscopic cracks or bruises in the bone. Stress fractures, unlike common fractures, are caused by overuse and repetitive activity. They are common in runners and athletes who play basketball and football. Stress fractures can occur in inactive adults who suddenly start exercising intensely (as their bones are not used to the excess exertion).

Stress fractures cause growing pain in the lower body, particularly the feet and shins. In addition, stress fractures take a long time to heal, which may induce athletes to return to exercise too soon, causing more injury. Scientists have identified two mutations linked to stress fractures, inactive people.

#### Stress Fractures and Bone Density

Stress fractures are more likely to occur in people with this mutation who participate in high-impact sports. Those at risk are encouraged to participate in low-impact sports like swimming rather than football to safeguard their bones.

Based on your genetic results, you are likely to have a lower stress fracture risk. . This means you are less prone to fractures from high-impact or long-distance training than the average person.

**Recommendations:**

Prevent stress fractures by knowing your genetic risk, stretching before exercise, and resting when necessary. Other circumstances, though, can increase one's risk.

Stress fractures are linked to age, weight, BMI, and race/ethnicity. Caucasians are more prone to stress fractures than Asians. Taller and heavier men (but not women) are more prone to stress fractures. Nicotine and other toxic substances in cigarettes can also impede bone recovery after injuries. As a result, smokers are more likely than non-smokers to develop a stress fracture.

Warming up before exercise and varying exercise routines can help prevent stress injuries. For example, stress fractures occur when people rush into a new regimen. So, gradually increase your workouts to allow your bones to adapt.

**Fact:**

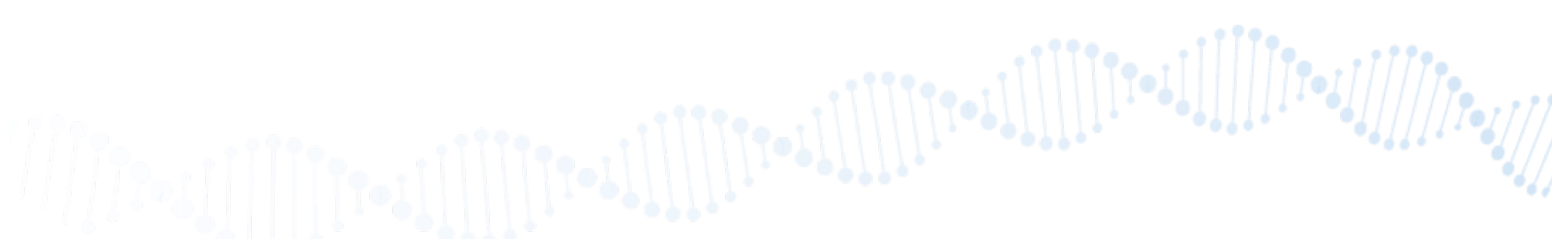
Stress fractures affect the lower leg by over 50%. (the shin and the bones of the foot).

Stress fractures affect women more than men, maybe because women lose bone mass faster than men as they age.

**Detected Genes:**

TNFRSF11A

SAMPLE REPORT





## Lifestyle

## Well-being

### Inflammatory Response



#### Explanation:

Inflammation is a protective mechanism in the body. It results in redness, swelling, warmth, and occasionally pain. It instructs the immune system to repair damaged tissue and protect against viruses and bacteria. Without inflammation, wounds and infections can become lethal. In addition, prolonged inflammation can increase your risk of developing allergies, depression, cancer, heart disease, and rheumatoid arthritis.

You are likely to have an average response to inflammation-based on your genetic results. Inflammation is necessary for the proper functioning of your immune system and heart, and overall health.

#### Recommendations:

##### Prolonged Inflammation is Risky Business

Persistent inflammation is caused by infections, pollution, diet, and genetics. To maintain your health, gain a better understanding of your inflammatory response. Understanding the elements that promote or suppress inflammation can assist in lowering your risk of developing chronic diseases.

##### Conditions Fuelled by Inflammation

An "inflammation" is a physical portion that feels like it's on fire is called an "inflammation." It can cause arthritis and other issues. In reality, '-itis' nouns refer to

inflammation. The inflamed body part is before 'itis'—inflammation of the tonsils or joints.

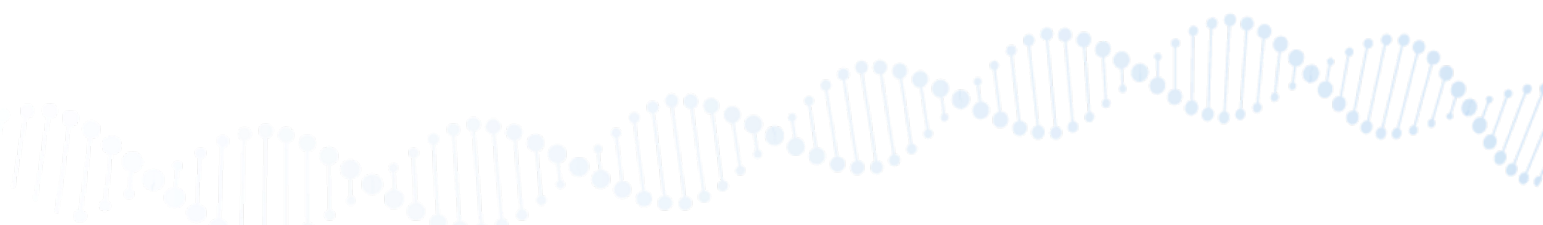
#### What You Can Do

1. Strive to achieve a healthy balance of pro-inflammatory omega-6 fatty acids (e.g., soybean and sunflower oils) and anti-inflammatory omega-3 fatty acids (e.g., salmon and walnuts).
2. Avoid saturated fats and trans fats, which might promote inflammation.
3. Avoid excessive alcohol use, as alcohol promotes inflammation.

#### Detected Genes:

GCKR, LEPR, HNF1A

**SAMPLE REPORT**



## Lifestyle

## Well-being

### Tendency for Mosquito Bites



#### Explanation:

##### Mosquito Preferences

Certain mosquitoes appear to have a significant liking for human blood, but they also distinguish between individuals when biting. According to studies, genetics account for 85 percent of your sensitivity to mosquito bites.

The makeup of your natural skin bacteria and the quantities of lactic acid, uric acid, ammonia, and other compounds in your sweat can work as an attractor. Another significant genetic component that attracts mosquitoes is a person's blood type. Genetics determine a person's blood type - A, O, B, or AB - mosquitoes are attracted to that type. Individuals who possess type O are more susceptible to mosquito bites than those carrying type B or A.

##### When Mosquito Bites go Wrong

Mosquitoes are disease vectors, becoming carriers of various acute pathogens that cause diseases such as malaria, dengue fever, yellow fever, and various viral disorders. The infection can enter the human bloodstream when the mouthpart of an infected mosquito pierces the skin.

You are genetically predisposed to mosquito bites. This suggests that your blood's genetic makeup attracts mosquitoes.



## Recommendations:

What you can do

1. Excess carbon dioxide attracts mosquitoes. Alcohol and spicy foods can increase body smell production, making you more attractive to mosquitoes.
2. Bringing garlic, basil, rosemary, lemongrass, and peppermint to your meals helps repel mosquitoes by neutralizing their favorite smells.
3. Mosquitoes breed in water. Clear any stagnant water around your homes, such as pots or ponds. Get a mosquito net for your bed if you reside in a tropical climate. Mosquitoes prefer dark-colored clothing. Looser fitting and lighter colors will keep bugs away.

## Fact:

Female Biters

Interestingly, only female mosquitoes feed on their hosts because they need the protein in human blood to help them develop their eggs. Male mosquitoes mainly feed on fruit and plant nectar.

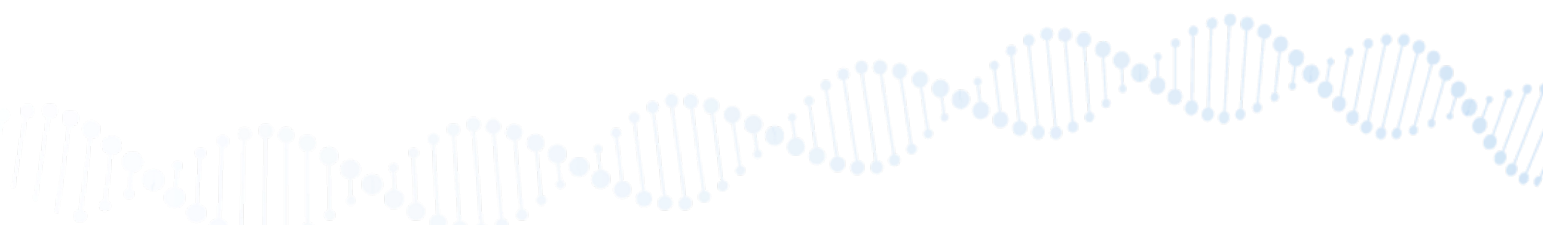
## Detected Genes:

DCC, FAS, HTT, KDR, LPP, NTM, TXN, AFF4, BRD3, CBLB, CDH7, CHN2, CLMP, CTSL, DLG2, DNM3, DPH1, FGF2, HHAT, HRNR, IL10, INSR, IRF1, NREP, P3H2, PBX4, PHF2, PLEC, RNF2, SKA1, STAC, TANK, TCHH, TGFA, TNKS, TNXB, WNT3, ZFAT, ABCA1, ABHD2, ACSL6, ACTL9, ACTN1, APBA1, APPL2, AUTS2, BACH2, BAHD1, BATF3, CHST3, CHSY3, CNTN3, DCLK2, DHODH, DHX35, FNIP1, FOXK1, FRAS1, GNG11, HACE1, HINT1, HLA-B, HLA-C, IKZF1, IL21R, KCTD1, KIF3A, LAMA5, LRCH1, MAGI2, MCTP2, MUC22, MYO3B, NCOR2, PATE4, PDE9A, RAB20, RAD50, RBM47, RBMS1, REEP3, SAMD3, SOX13, STAT6, STMN2, TECRL, TPCN2, TRIB1, TTC7B, UBAP2, UNC5C, USP34, VEGFC, WDR72, ZFH3, ACTL7B, ADAM12, ARID3B, CAMK2G, CLDN12, CSF2RB, DCDC2C, DDX39B, EFCAB6, ERICH6, FBXO11, INPP5D, LRRC4C, MEIKIN, MROH2A, PAPOLG, PDLIM4, PHLDA3, R3HDM1, SDR9C7, SLAMF1, SLC4A4, SORBS3, SPATA5, TNFSF8, UNC13C, VANGL1, ZNF236, ZNF423, AGTPBP1, HLA-DRA, MAPKAP1, PLA2G4A, PPP1R21,



RAPGEF6, SLC22A5, TMEM108, TNFRSF8, HLA-DQA2, HLA-DQB1, HLA-DQB2, KIAA1109,  
NAALADL2, SLC25A37, TMEM132D, FPGT-TNNI3K

**SAMPLE REPORT**



## Lifestyle

### Stress & Sleep

#### Sleep Depth



#### Explanation:

Sleep depth refers to how deeply one sleeps and how easy or difficult it is to awaken. As sleep progresses, brainwave patterns become slower. Sleep depth varies between individuals, in part due to genetic variances.

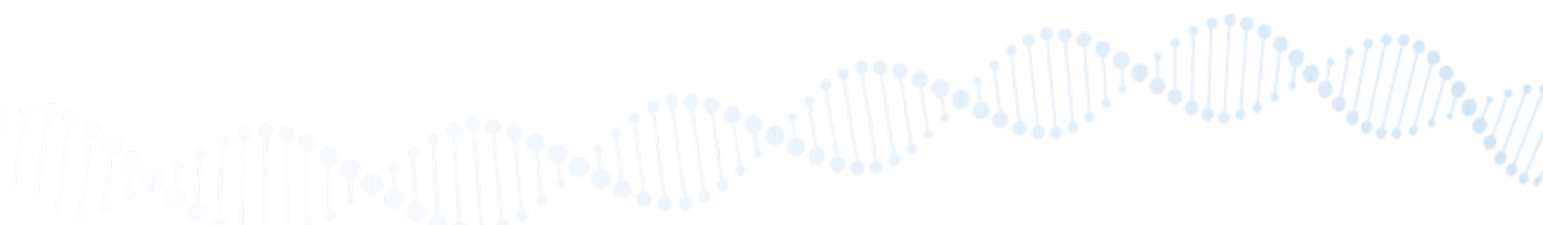
You are likely a 'Deep Sleeper' based on your genetic results. This suggests that you may tend to experience deep sleep.

#### Recommendations:

Deep sleep enables the brain to build and store new memories and enhances its information collection and recall capacity. Additionally, this stage of sleep allows the brain to rest and recover from a day of thinking by replenishing energy in the form of glucose for the following day. Therefore, you must boost your deep sleep by getting enough overall sleep each night. Additionally, you can increase your slow-wave sleep with exercise and a balanced diet.

#### Fact:

Drinking coffee before bed delays your internal body clock by 40 minutes



## Lifestyle

### Stress & Sleep

#### Sleep Quality



#### Explanation:

Sleep is critical, and genes may significantly impact how we sleep. Each person's unique genetic code dictates when to sleep and perform body processes such as metabolism, inflammation, stress, and immunological response.

Insomnia and other sleep-related issues may result from an imbalance between your genetic composition and lifestyle.

Based on your genomics information, you are most likely an 'Average Sleeper.'. This indicates that you are likely to sustain a restful sleep pattern once asleep.

We've tested the genes known to influence abnormal movement or breathing during sleep, which may contribute to sleeplessness and insomnia.

#### Recommendations:

Tips to beat insomnia so that you can have a more restful night.

1. Keep regular sleep hours: go to bed and get up at roughly the same time every day
2. Create a restful sleeping environment: temperature, lighting, and noise should be controlled
3. Exercise regularly: moderate exercise regularly
4. Avoid caffeine later in the day and try to unwind for half an hour before bed to maintain proper sleep hygiene.
5. Quite Smoking

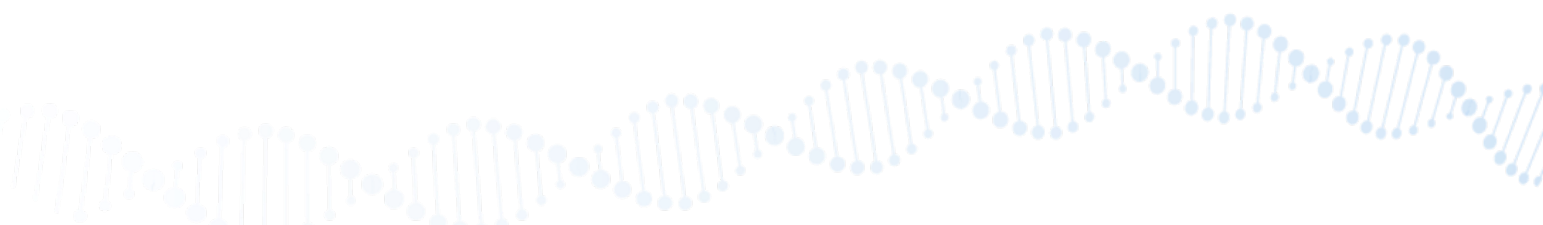
**Fact:**

Nearly one in ten persons have chronic insomnia, and one in four has intermittent insomnia. Insufficient sleep and disruptions in circadian rhythm are linked to significant health impacts such as decreased metabolism and diminished cognitive function. In addition, poor sleep causes weight gain. Obesity and cardiovascular disease are also included.

**Detected Genes:**

ADA, FGF12, MEIS1, TUSC1, EGFLAM, ADAMTS9, CACNA1C, SLC2A13

**SAMPLE REPORT**





## Lifestyle

### Stress & Sleep

#### Sleep Duration



#### Explanation:

Sleep duration is the amount of sleep the body requires to achieve optimal performance - which is how we operate daily. You will need a standard rest of 7-9 hours per night to excel in your daily tasks based on your genetic results.

We've tested the genes that are known to influence how long a person needs to sleep to function normally. Individuals with optimal sleep duration tend to have a better glucose metabolism.

#### Recommendations:

You are likely to require a regular sleep length to work well based on your genetic profile. It is highly recommended that you retain your normal 7-9 hours of sleep per night to perform well in your daily responsibilities.

#### Fact:

-Sleep duration does not indicate your actual individual sleep behavior, nor does it suggest how much or little you should sleep based on the results. Sleep is needed in moderation - either too much or too little could affect your health. This includes reaching a higher-than-recommended body mass index (BMI) and the risks of developing cardiovascular diseases, hypertension, and diabetes.

-Brown bats sleep 20 hours per day on average, while Giraffes sleep only 2 hours

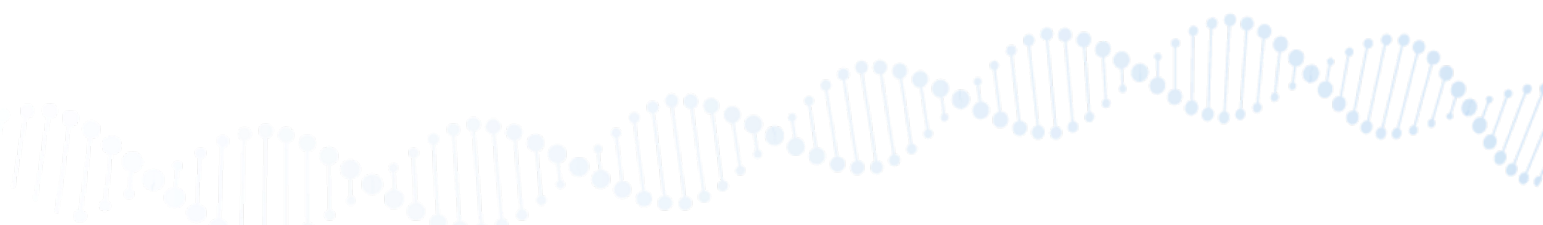


per day

**Detected Genes:**

PAX8, VRK2, FOXP2, PCDH15, PRIMA1

**SAMPLE REPORT**



## Lifestyle

### Stress & Sleep

#### Sleep Movement



#### Explanation:

Sleep movement is the amount of involuntary leg and arm muscle contractions during light sleep. It is normal twitching, jerking, or flexing of the limbs during sleep. However, frequent activity can disrupt sleep. Involuntary muscle contractions are determined in part by genetics.

According to your genetic profile, you are likely to experience an average level of involuntary movement during sleep. As a result, you sleep better than individuals who demonstrate more sleep movement.

We examined highly expressed genes in many brain regions, including the amygdala, cerebellum, and hippocampus. Specific genes are highly connected with and have been shown to influence the risk of periodic limb movements during sleep and restless leg syndrome.

#### Recommendations:

To avoid sleep movement, you should

1. Avoid Caffeine: coffee, chocolate, soda, tea
2. Home treatment, such as relaxation exercises or massage.
3. Regular exercise, try to do the moderate activity for at least 2.5 hours/ week
4. Get some prescriptions from doctors



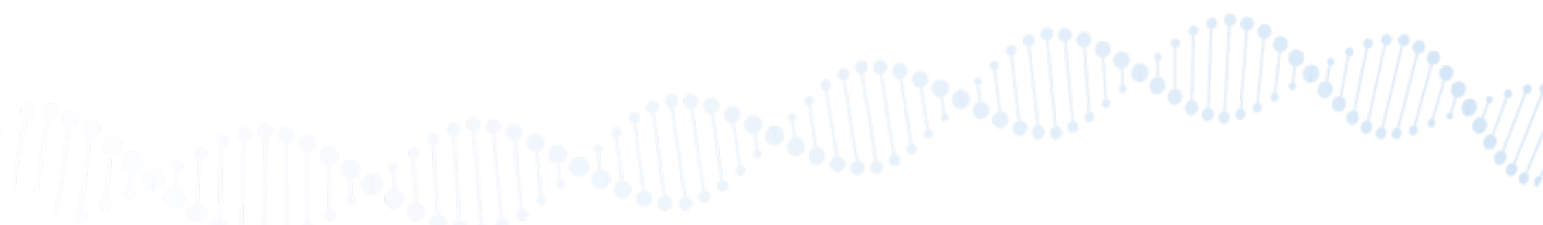
**Fact:**

Researchers found that sleeping with your socks on can increase your ability to reach an orgasm

**Detected Genes:**

BTBD9, MEIS1, PTPRD, ATP2C1, MAP2K5, SEMA6D, CCDC148, ZNF804B

**SAMPLE REPORT**



## Lifestyle

### Stress & Sleep

#### Stress Tolerance



#### Explanation:

Stress tolerance is the tendency to remain calm and composed in adversity.

Based on your genetic result, you are likely to have an average level of stress tolerance. High levels of stress can impair cognitive function (i.e., concentration), disrupt relationships at home or work, and lead to long-term health problems. Chronic stress can result in serious health consequences such as anxiety, depression, heart disease, sleep deprivation, and digestive difficulties.

We've tested the genes that influence how your brain produces or breaks down the stress hormone cortisol and stress-related brain chemicals (dopamine and serotonin).

#### Recommendations:

Stress tolerance is frequently achieved by developing coping mechanisms such as

- Calm behaviors: give yourself a pep talk reminding yourself that you can cope with the situation whether you take a deep breath, meditation, progressive muscle relaxation, and physical activity can help you manage the physical symptoms of frustration healthily.

- Good diet: Moderation is key. Too much caffeine could increase anxiety, while too little protein, Omega-3 fatty acids, and vitamin B could decrease your tolerance to stress.

- Adequate rest - a positive mindset: A person who thinks things like "Life should be easy" or "Other people should always meet my expectations" will be less tolerant of

everyday stressors than someone else.

- Supportive environment: relying on trusted social circles for support can minimize feelings of stress, anxiety, and tension.
- decrease work pressure

Acute or short-term stress can affect anyone. However, persistent or long-term stress can significantly impact your health and sleep, increasing your risk of cardiovascular disease, coronary heart disease, obesity, depression, and cancer. Understanding your body's DNA allows you to determine the best approaches to combat stress.

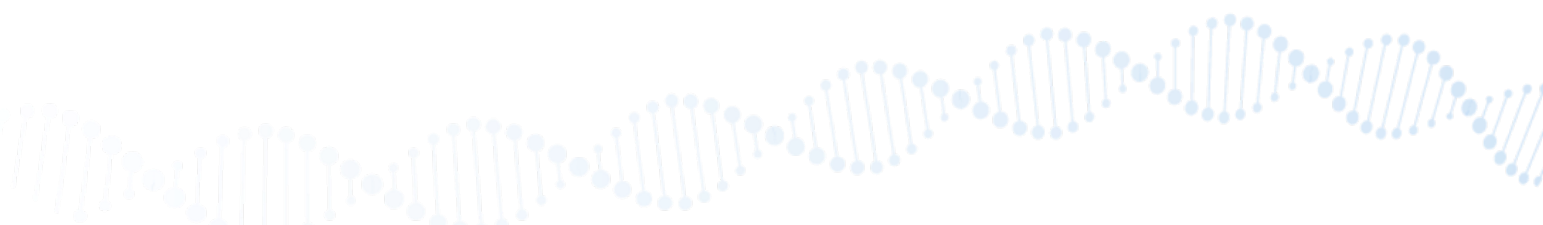
**Fact:**

The smell of an orange relieves stress. Smelling an orange or eating one can reduce stress by over 70%

**Detected Genes:**

BDNF, COMT, CRHR1, FKBP5, NR3C1, NR3C2

**SAMPLE REPORT**



## Lifestyle

### Stress & Sleep

#### Sleep Apnoea Risk



#### Explanation:

Sleep apnoea is a sleep disorder when breathing is disrupted. The illness's severity is partly since it does not awaken the person. Untreated sleep apnoea can lead to heart disease, hypertension, diabetes, memory loss, and depression. Observe for indicators including decreased or absent breathing, loud snoring, sleep gasping for air, and daytime fatigue. Also, daytime exhaustion, headaches, poor attention, and lack of energy could be signs of sleep apnoea.

Sleep apnoea is inherited at 37%. Damage to the brain or anatomical changes in the tonsils or adenoids of the airway is additional risk factors.

You have an average hereditary risk for sleep apnoea. This implies that you may sleep better than people at risk of sleep apnoea owing to airway blockages.

#### Recommendations:

To do the sleep apnea lifestyle remedies

1. Maintain a healthy weight
2. Try yoga
3. Alter your sleep position
4. Avoid alcohol and smoking

Common treatments include breathing devices, medication, and surgery if you have sleep apnoea symptoms. It is recommended that you visit a physician who



specializes in sleep medicine.

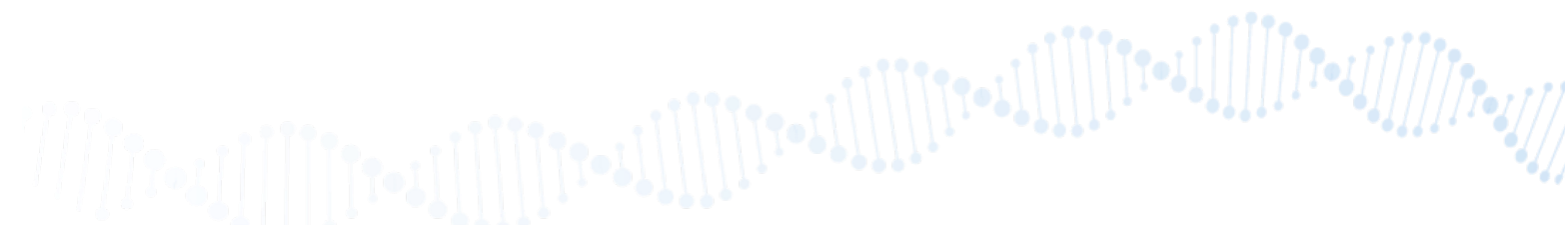
**Fact:**

1/70 of people have sleep apnea, and 78% of sufferers are undiagnosed.

**Detected Genes:**

CDH4, DLC1, IL1B, NBAS, NBEA, RGMA, ARRB1, GPR83, HDAC4, PLCB1, SCN3A, SMCO2, SNTG1, ATP10A, ATP2B4, CFAP54, ENTPD4, HS3ST4, SLC35F3, TMEM154, TSPAN18, CCDC162P, TMEM132B

**SAMPLE REPORT**





## Lifestyle

### Stress & Sleep

#### Stress-Induced Obesity



#### Explanation:

In addition to genetics, the brain's stress signaling triggers emotional binge eating. The body's natural defense response is a rise in glucocorticoids and insulin, chemicals that enhance appetite. Chronically overeating can lead to obesity. An excess of the stress hormone cortisol can cause weight gain. This explains the weight increase during stressful times.

Based on your genetic results, you are likely to have an average risk of stress-induced obesity. You have a genetic propensity toward a normal appetite during times of stress.

We've tested the genes known to regulate dopamine levels in the brain. More significant dopamine signals in the brain's reward mechanism may lead to an increased food intake and unhealthy eating behaviors that may result in potential weight gain.

#### Recommendations:

Individuals prone to stress-induced eating could break the cycle by eating healthier with complex carbs and proteins that keep them satiated longer to minimize stress-induced eating. In addition, adding yoga, tai chi, or meditation to your daily routine or associating with a supportive social circle may help alleviate stress.

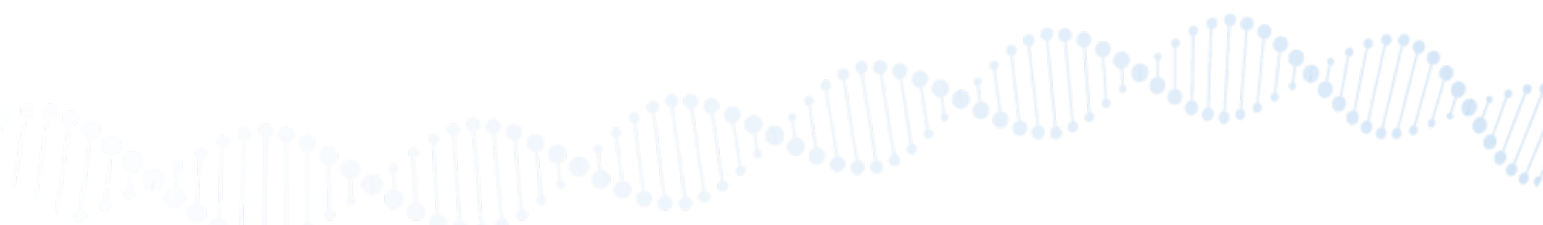
**Fact:**

Binge Eating Disorder (BED) often begins in the late teens or early 20s, where women are common in early adulthood while men are ordinary in midlife.

**Detected Genes:**

COMT, DRD2, ANKK1

**SAMPLE REPORT**



## Lifestyle

### Stress & Sleep

#### Sleep Time (Chronotype)



#### Explanation:

According to research, genes may affect up to 50% of your sleep time. With a fast internal clock, you get things done early in the day; you get things done later or in the evening with a sluggish internal clock.

The circadian rhythm regulates our sleep and waking periods. While we all have 24 hours, we all work differently. "Morning Lark" against "Night Owl"

Based on your genetic results, you are likely to be expected. This suggests that you tend to wake up around an average person does (not too early or late).

#### Recommendations:

A 2012 review found that morning people have higher levels of happy feelings. It would be best to evaluate how easy it is to feel comfortable and cheerful when your sleep pattern allows you to snuggle into society effortlessly. It is advisable to get the most important things done in the morning. We should adjust our schedules and lifestyle accordingly to function at optimal levels and feel our best.

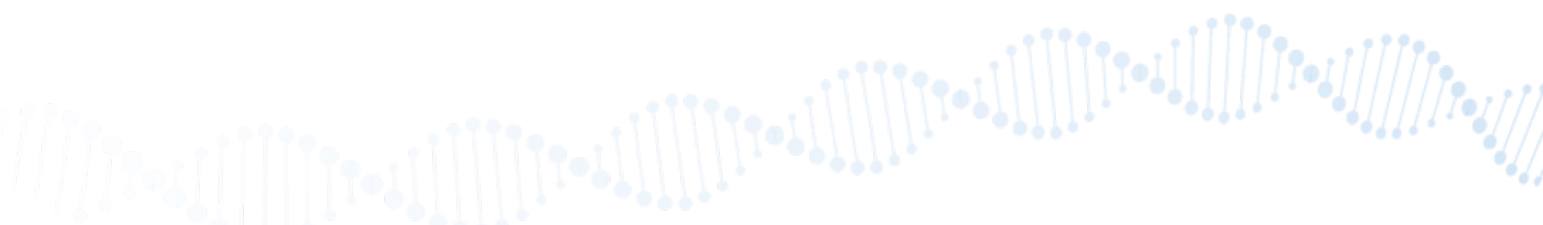
#### Fact:

Your chronotype can change with age. Many adolescents tend to be 'Night Owls' while the elderly tend to be 'Morning Larks.'

**Detected Genes:**

AK5, ERC2, EXD3, MSRA, PATJ, PER2, PIGK, ACYP2, ADCY8, KCNU1, PLCL1, RGS16, VAMP3, HCRTR2, RNASEL, TNRC6B, C1orf54, FAM185A, PHACTR1

**SAMPLE REPORT**



## Lifestyle

## Skin and Beauty

### Skin Age



#### Explanation:

Natural aging is unavoidable. Our skin thins and dries with age, causing wrinkles and elastin loss. While lifestyle and environmental variables like smoking and sun exposure influence skin aging, hereditary factors also play a role.

You are genetically predisposed to an average age appearance. Recent research shows that persons who appear older than their chronological age had worse activity in genes related to DNA repair, protein metabolism, cell replication, and oxidative stress response.

We investigated genes associated with skin aging and youth. Rather than affecting your trait individually, these genes work together to form your phenotype. Therefore, you will appear older than your chronological age if you have one or more risk alleles.

#### Recommendations:

Our lifestyle dramatically affects our most outstanding organ, the skin. While we may be genetically prone to age slower or faster than others, certain variables might help us look younger, such as eating a healthy diet and avoiding the sun. In addition, to keep your skin looking young, avoid irritants like exhaust fumes, pollution, and cigarettes.

Limit alcohol intake to no more than one standard drink per day for women and two standard drinks per day for men as dietary factors may regulate the extrinsic aging of the skin.

Products formulated with key ingredients like Vitamin C, Retinol, or AHAs can help slow aging.

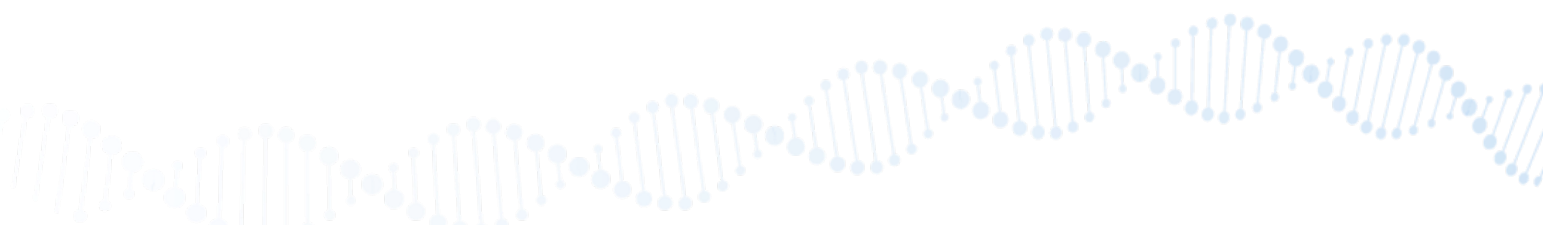
**Fact:**

Using sunscreen daily can reduce skin aging by 24%

**Detected Genes:**

AHR, CAT, ELN, IL6, TNF, BIN2, CTC1, GPX1, HYKK, IL6R, IRF4, NCR2, NQO1, PFKM, PON1, STN1, STUM, TERT, UCP2, ACYP2, ASCC2, ASIC2, CAMK4, EPHX1, KRT80, SSBP3, SYT16, AKRIC3, CSRNP3, FAM13A, LIMCH1, MBOAT1, PAPSS1, TRDMT1, CSNK2A2, SLC44A4, SLC45A2, TMPRSS7, ZFYVE28

SAMPLE REPORT



## Lifestyle

### Skin and Beauty

#### Acne Risk



#### Explanation:

Acne is a chronic skin condition marked by inflammatory sores. Four primary pathways cause acne. Increased hormonal sebum production, acne bacteria are increasing within the hair follicle (producing inflammation), and inappropriate immune responses lead to excess inflammation.

Based on your genetic results, you have an average risk of developing acne than the average person.

We investigated these genes because they contribute to acne development. These genes regulate the skin's immunological response, inflammation, scar formation, and hormone metabolism, which are linked to sebum production.

#### Recommendations:

While your genes mainly determine acne, there are steps you can take to reduce your risk of developing an acne outbreak.

1. Exfoliation: Keeping your hair follicles clear will help prevent acne. Skin cells, oil, cosmetics, and other follicle-blocking substances can be removed by exfoliating. It can also remove acne from hair follicles, such as whiteheads and blackheads. It is critical to maintain exfoliation even when no acne lesions are present. The skin sheds its top layer every twenty-eight days, and if exfoliation is discontinued, you are at a greater risk of developing acne problems.

2. **Skin Cleaning:** Gently cleaning your skin daily helps eliminate cosmetic materials before they get lodged in hair follicles. Cleansing your skin removes sweat, clogs hair follicles, and causes blockages. Using non-comedogenic cosmetic products will also assist in preventing pore plugging.

Scrubbing your skin too hard will damage it, making it red, sore, and blotchy.

3. **Avoidance of Friction:** Acne can occur through friction on the skin and pore blockage from tight-fitting clothing and accessories. For example, pushing a tight-fitting t-shirt against your back might irritate the skin, causing heat and sweating. Sweat and tight-fitting clothing limit the opening of hair follicles (pores), allowing germs to thrive and causing acne. Acne Mechanica is a kind of acne. Avoid extended friction and wear tight-fitting garments and accessories to lower your risk of developing acne mechanica. If you're going to sweat, wear loose, breathable textiles.

Not only tight garments can induce acne mechanica. Tight-fitting helmets, hairbands, and backpack straps can also cause the problem.

4. **Diet:** According to observational and anecdotal research, meals that considerably raise your blood sugar levels (such as carbohydrates, sweets, and dairy) are associated with the development of acne.

5. **Stress:** Anecdotal and observational research indicates a link between stress and the start of acne. Stress also produces inflammation throughout the body (including the skin), which can exacerbate the appearance of pre-existing acne.

6. **Sleep:** Sleep benefits your emotions, mental health, and body's ability to recover and fight disease. Adults should sleep between seven and eight hours per night.

SAMPLE REPORT





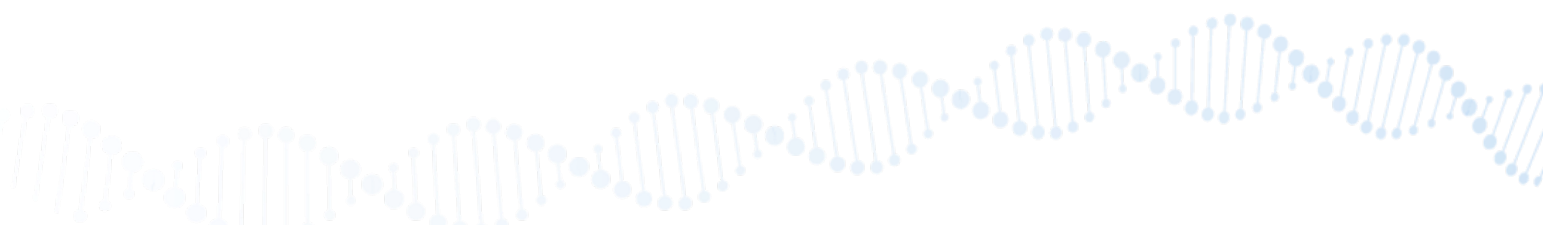
**Fact:**

At some point in their life, 85% of people will suffer from acne. More than 40% of teenagers will have acne or acne scars by their mid-teens.

**Detected Genes:**

TNF, FAT1, SELL, TGFA, LARS2, C11orf49, TBC1D22B

**SAMPLE REPORT**



## Lifestyle

### Skin and Beauty

#### Sunburn Risk



#### Explanation:

The sun's damaging ultraviolet (UV) rays can cause significant skin damage. Our genes influence how efficiently we protect ourselves from the sun and how easily we recover the damage done.

UV rays cause two forms of skin damage. Both cause skin cancer. UVB rays cause most sunburns, whereas UVA rays penetrate deep into the skin. Sunburn is a symptom that too much UV radiation has destroyed the DNA in your skin cells. Sunburning even once every two years can triple your risk of melanoma. Sunburned skin isn't always raw, peeling, or blistering. Instead, sunburned skin turns pink or crimson in the sun. Darker skin may become inflamed, tender, or itching.

UV light is responsible for up to 90% of external skin aging. UV exposure causes oxidative stress, aging the skin by degrading collagen and elastin.

You have a decreased risk of sunburn based on your genetic results. However, you should avoid excessive sun exposure, as this increases your risk of photoaging and your chance of skin cancer.

We examined the genes that increase your risk of sunburn. Some genes can help prevent DNA damage from UV rays and help mend damaged skin. If you have one or more risk alleles, you may be more susceptible to sunburn and melanoma skin cancer.





### Recommendations:

Your body has mechanisms to repair most solar damage - but these mechanisms are not flawless. A tiny amount of damaged DNA may be left behind. Sunburn symptoms are caused by your body's attempt to repair this damage.

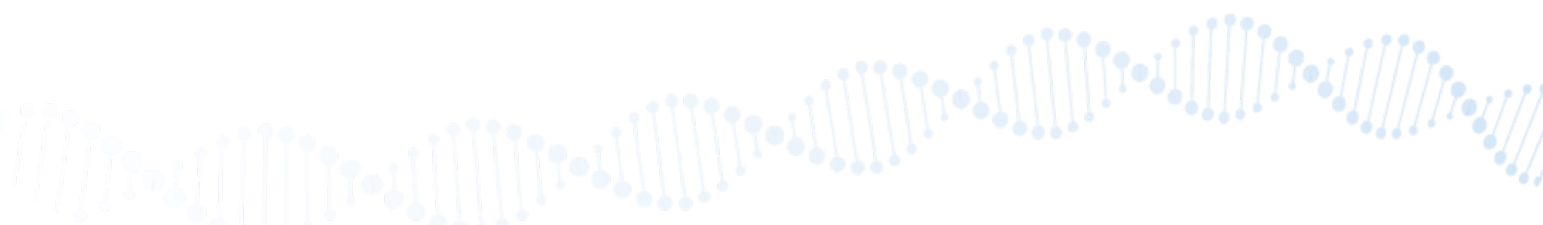
To protect your skin from sunburn, we recommend you to

1. Wear a hat to block the sun from your entire face and neck area
2. Regular intake of probiotics, such as streptococcus thermophilus and lactobacillus found in yogurt, kimchi, and kombucha, could mitigate sunburn.
3. Apply sunblock with titanium dioxide or Zinc Oxide as ingredients to prevent UV radiation absorption

### Detected Genes:

NTM, IRF4, HERC2

**SAMPLE REPORT**



## Lifestyle

## Skin and Beauty

### Stretch Marks



#### Explanation:

Stretch marks are lines on the skin that transform from red to white over time. Lines are formed by linear collagen bundles beneath the skin's surface.

The marks are harmless. Some may find them aesthetically unpleasant. The marks can potentially indicate underlying conditions like Cushing's syndrome.

Stretch marks appear when the skin 'stretches' rapidly, such as during fast weight gain, puberty, or pregnancy.

You have an average genetic risk of developing stretch marks based on your genetic results. However, environmental factors such as stress and nutrition can impact your external risk.

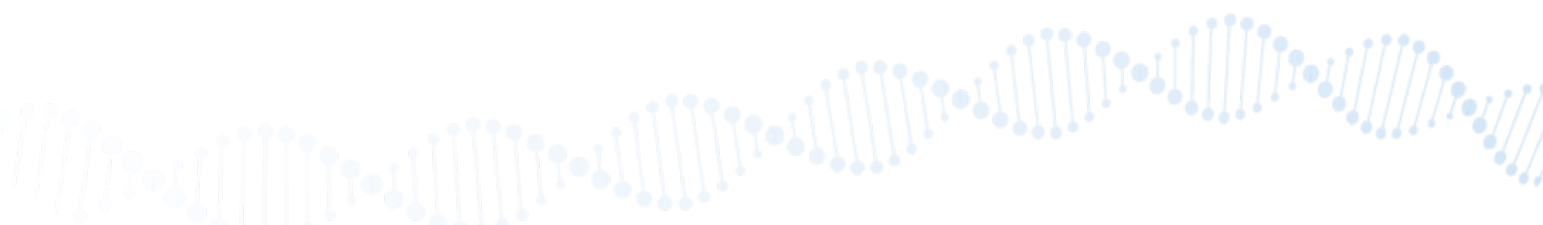
#### Recommendations:

By maintaining your body's collagen and elastin levels, you can help prevent them from appearing in the first place.

#### Detected Genes:

ELN, FNI, SRPX, HMCN1, TMEM18

SAMPLE REPORT



## Lifestyle

## Skin and Beauty

### Glycation Risk



#### Explanation:

Glycation occurs when glucose molecules link to proteins such as collagen and elastin in the skin. This process results in Advanced Glycation End-products (AGEs), damaged proteins. As collagen and elastin lose elasticity and function, the skin ages faster, causing sagging, wrinkles, dullness, and pigmentation.

Glucose is a naturally occurring sugar that causes glycation when not fully metabolized. Our genes influence how our bodies metabolize glucose.

Based on your genetic results, you have a lower glycation risk. This implies a better ability to metabolize glucose and hence a lower risk of glycation.

#### Recommendations:

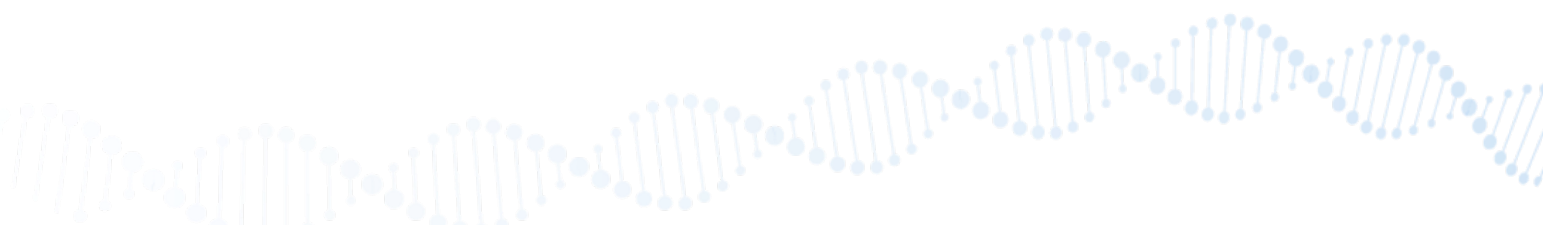
- Opt for whole-grain carbohydrates such as quinoa, brown rice, and whole-wheat flour instead of refined carbohydrates such as white flour or white rice.
- Avoid artificial flavorings or sugar-heavy confectionaries like cookies or pastries. Keeping your daily glycaemic intake low is beneficial.
- You can prevent exogenous glycation by avoiding cooking food with AGEs at high temperatures. Opt for milder cooking methods, like oven baking and steaming animal protein.



**Detected Genes:**

AGER, GLO1, PALLD

**SAMPLE REPORT**



## Lifestyle

### Skin and Beauty

#### Keloid Scars Risk



#### Explanation:

When we damage our skin, it must regenerate new tissue containing collagen, a protein found in human skin. This new collagen can distort and develop scar tissue. When excessive scar tissue is formed, it makes a smooth, hard growth known as a keloid scar.

It is unknown why some people develop keloid scars instead of normal tissue repair scars. However, our genes have altered this likelihood by environmental causes that can trigger the condition in genetically sensitive people. Several genes have been linked to keloid disease etiology. Although keloid scars are not harmful or painful, they may create aesthetic and psychological concerns.

You have an average risk of forming keloid scars based on your genetic results.

#### Recommendations:

-If you notice a thickening of the skin at your ear lobes, remove your earrings and replace them with pressure earrings. These can be found in a cosmetics supply store.

- You can find over-the-counter garlic extract in soft gel or capsules.
- You can find over-the-counter onion extract in capsules.
- You can find over-the-counter silicone gel in the form of sheets and patches.

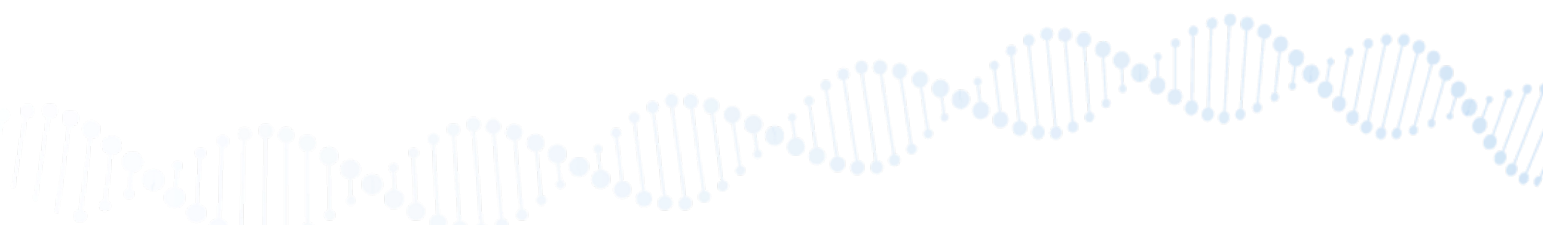
Alternatively, you can find them in some beauty stores.



**Detected Genes:**

TP53, NEDD4, COL1A1, PRR23A

**SAMPLE REPORT**





## Lifestyle

## Skin and Beauty

### Cellulite Formation



#### Explanation:

Cellulite is a skin ailment that causes dimples and lumps. In the buttocks and thighs, however, it can develop elsewhere. Fat deposits press through the connective tissue beneath the skin, causing cellulite. Cellulite is more common in women because of fat, muscle, and connective tissue distributions.

Hormones are one of the main risk factors for cellulite formation. Cellulite is caused by estrogen, insulin, noradrenaline, thyroid hormones, and prolactin.

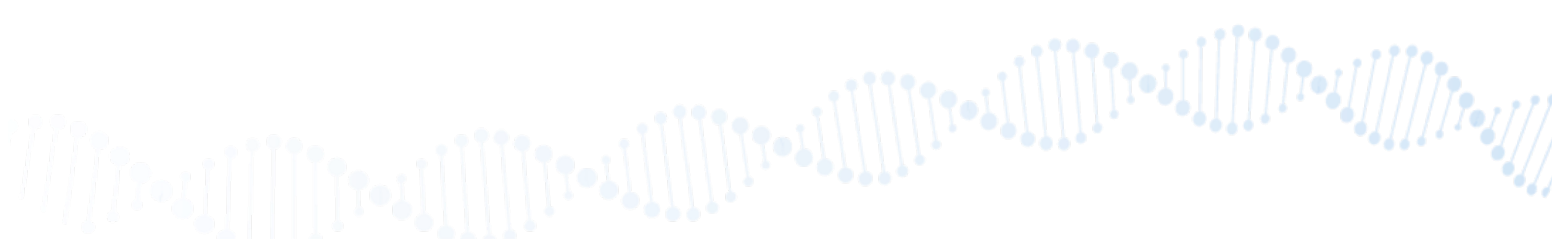
Skin loses elasticity, becomes thinner, and sags with age. This raises the risk of cellulite. In addition, people who overeat fat, carbs, sugar, salt, and lack fiber are more prone to have cellulite.

Based on your genetic results, you have a lower cellulite formation risk.

#### Recommendations:

Despite your genetic results, other environmental and lifestyle risk factors can contribute to cellulite formation, such as being overweight, high fat intake, and smoking. However, maintaining a healthy BMI and avoiding fatty foods can help decrease the chances of cellulite formation.

SAMPLE REPORT



## Lifestyle

### Skin and Beauty

#### Skin Photoaging Risk



#### Explanation:

Photoaging is the premature skin aging caused by frequent exposure to UV radiation from the sun and other sources. UV rays induce DNA damage, which can lead to skin cancer. Decreased skin suppleness and fine wrinkles are also caused by photoaging.

Photoaging appears on the body's most apparent sun-exposed areas. Your risk depends on how much unprotected sun you get. Those with pale skin and blonde or red hair and those who work or play outside in the sun are most at risk. Aside from time and genes, sun protection can prevent photoaging.

Your genetic data indicate a lower photoaging risk. If you are frequently exposed to ultraviolet (UV) light from the sun, your skin may age slower than the average person.

We looked into the genes linked to skin photoaging. Rather than affecting your trait individually, these genes work together to form your phenotype. So if you carry one or more risk alleles, you are at an increased genetic risk for premature skin aging.

#### Recommendations:

The most effective method of combating photoaging is prevention. Sun protection is the most effective photoaging prevention method, which includes using sunscreen, avoiding exposure to the sun during peak hours, and wearing sun-protective clothes. In addition, convincing evidence indicates that topical

administration of retinoids can partially reverse mild to moderate photodamage. Carrots, pumpkin, sweet potatoes, and green tea can also protect skin from photoaging signs as Beta Carotene and Polyphenols act as photoreceptors.

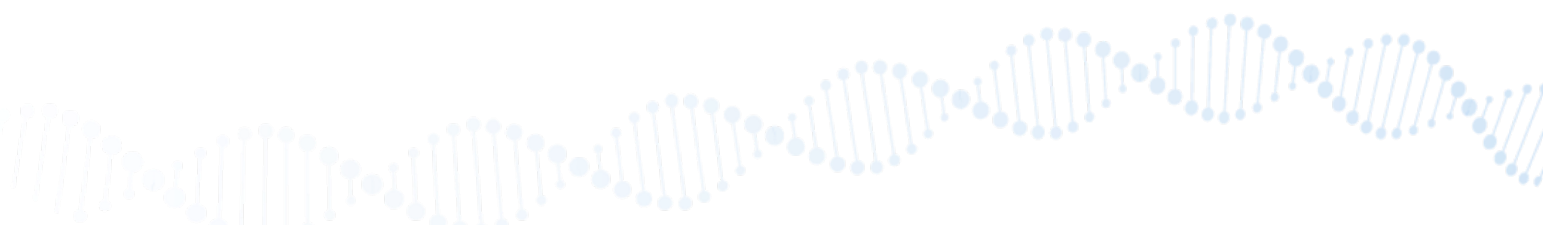
**Fact:**

- Concentrated blue light emitted by digital devices can promote skin damage, pigmentation & premature photo-aging.
- Photoaging is responsible for 90% of visible changes to the skin.

**Detected Genes:**

SLC45A2

**SAMPLE REPORT**



## Lifestyle

## Skin and Beauty

### Oxidative Stress Risk



#### Explanation:

Our bodies contain protection mechanisms against free radicals. However, due to our DNA, some people's processes don't work as well as others. The good news is that antioxidants in our diet or topical products can help our bodies defend themselves.

Oxidative stress occurs when free radicals and antioxidants are out of equilibrium. Toxic free radicals have been linked to the breakdown of skin components such as collagen and elastin, resulting in drooping and wrinkled skin.

Based on your genetic results, you have an average oxidative stress risk compared to the rest of the general population. This suggests that your skin is more likely to incur damage from free radicals.

We investigated genes that help the body fight free radicals. These genes show the body's ability to manufacture antioxidants to battle free radicals, indicating oxidative stress, a major cause of cellular damage.

#### Recommendations:

You can improve your body's DNA protection and antioxidant functions. Simple dietary adjustments might have long-term effects on your skin. Antioxidants are found in numerous foods and skincare products.

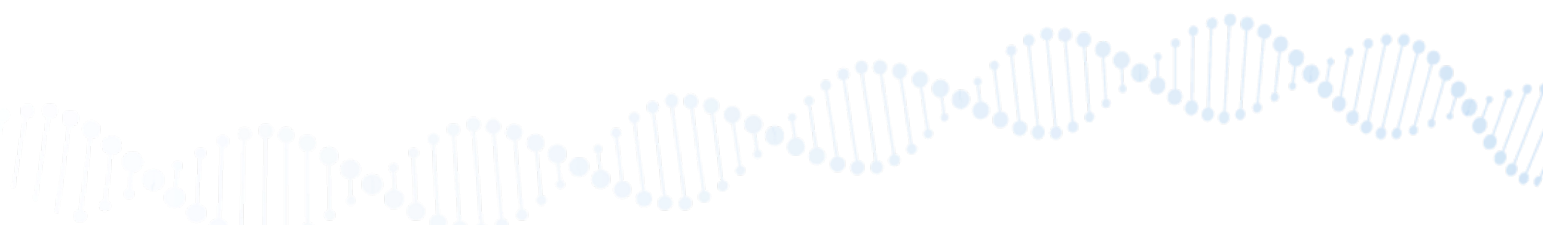


1. Vitamin E, C, A
2. CoQ10
3. Selenium
4. Polyphenols
5. Niacinamide (B3)

**Detected Genes:**

CAT, TNF, GPX1, IL6R, NQO1, PON1, UCP2, EPHX1

**SAMPLE REPORT**



## Lifestyle

## Skin and Beauty

### Hyperpigmentation Risk



#### Explanation:

Hyperpigmentation causes the skin to darken. It might develop in small spots, large areas, or all over the body. They can be any size and appear anywhere on the body. The term 'pigmentation' refers to the process of skin coloring. The pigment melanin is responsible for the color of your skin. Melanin is produced by melanocytes, which are skin cells. Several diseases or causes can affect the body's melanin synthesis. For example, sun exposure and hormonal fluctuations can increase melanin production and hyperpigmentation risk.

Based on your genetic results, you have a lower hyperpigmentation risk. This suggests that you may be less prone to developing darker patches of skin.

#### Recommendations:

Hyperpigmentation can be caused by excessive UV exposure, living in a polluted environment, not using enough sun protection, taking medications like antidepressants and oral contraceptives, undergoing skin care treatments like microdermabrasion or dermabrasion, waxing, shaving, picking acne and blemishes, and getting tattoos.

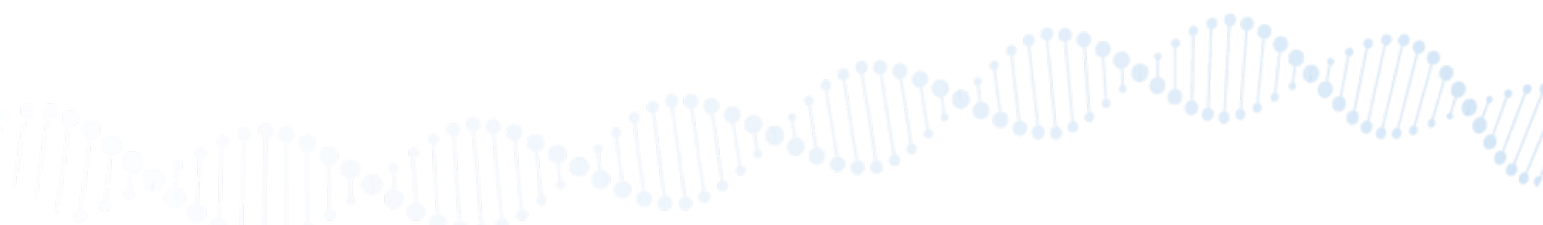
You can also use a broad-spectrum sunscreen with SPF 30 or higher to protect your skin from UVA and UVB radiation. It can be found over-the-counter at many stores.

Also, aloe vera contains aloesin, which inhibits tyrosinase activity, decreasing melanin pigment formation.

### Detected Genes:

IRF4

**SAMPLE REPORT**



## Lifestyle

### Skin and Beauty

#### Skin Bruising Tendency



#### Explanation:

A bruise is internal bleeding caused by a trauma that tears blood vessels (capillaries) under the skin. As a result, the blood pours into the tissue and clots. Some people are genetically predisposed to bruising. For example, they may have more weak blood vessels or paler skin, making bruising more visible.

Bruising might indicate an underlying bleeding disease that prevents blood from clotting. A low protein that helps blood coagulate is the most prevalent inherited disorder.

Based on your genetic results, you have an average skin bruising tendency. For example, you're more likely to have low amounts of protein that helps blood clot if you have more risk alleles. This raises your risk of skin bruising.

#### Recommendations:

Apart from genetics, certain environmental and lifestyle factors could make you more prone to bruising. These include spending more time in the sun, taking certain medications and supplements, and nutritional deficiencies – such as deficiencies in vitamin C, B12, K, and Zinc.

SAMPLE REPORT



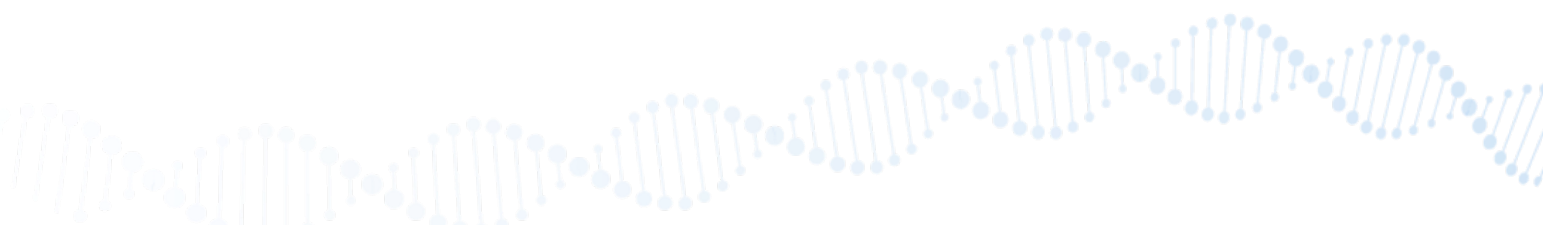




**Detected Genes:**

VWF, ITGB3, COL1A1

**SAMPLE REPORT**



## Lifestyle

### Skin and Beauty

#### Skin Hydration Ability



#### Explanation:

Healthy skin requires regulated hydration, yet the physiological mechanisms that control hydration are still unknown. Over the last decade, researchers have tried to understand the nature and regulation of the water gradient across the epidermis layers. Of central importance is the role of membrane-bound pores called aquaporins that facilitate the passage of water and, in some cases, small molecules such as glycerol.

Natural moisturizing factors (NMF) protect and moisturize the skin's outer layer. NMFs are composed of amino acids, fatty acids, triglycerides, hyaluronic acid, and other skin-derived substances. These hygroscopic compounds work as water binders, keeping the skin moist.

Based on your genetic results, you have a better skin hydration factor. This suggests that the ability of your skin to hold water is standard. We tested your skin hydration genes. Skin hydration factor (skin hydration factor) is a critical protective surface barrier for preserving skin health. Inheriting one or more of the risk alleles may increase your risk of dehydration and premature aging.

#### Recommendations:

Regardless of your genetics, it is vital to protect your skin's health with proper skincare. This includes daily use of moisturizers, toners, and serums.

- Intradermal moisturizers help retain moisture (including NMF) that can bind water in the skin cells and protect the deeper layers of skin.

- Toners assist in rebalancing the Hydro Lipidic Barrier (HLB), which covers the skin's moisture levels. It is a concentrated product that is applied under moisturizers or other formulas.
- A serum is a concentrated formula intended to be worn with a moisturizer or another preparation. It can be tailored to address single or multiple skin concerns depending on the serum.

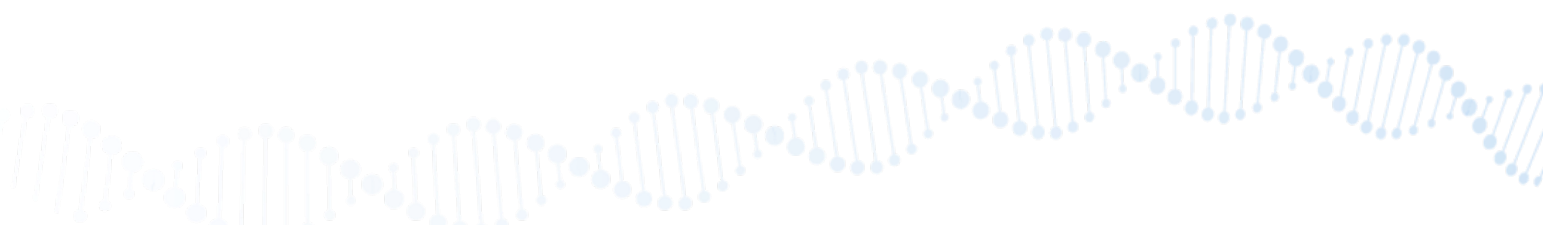
**Fact:**

Cleaning your skin more than 2 times a day can lead to moisture loss

**Detected Genes:**

SSBP3

**SAMPLE REPORT**



## Lifestyle

### Skin and Beauty

#### Wrinkle Formation Risk



#### Explanation:

Wrinkles develop as the skin loses collagen and elastin, limiting its capacity to 'bounce back' when contracted. They are also correlated to skin volume reduction attributed to fat and muscle loss and decreased moisture according to hyaluronic acid depletion.

Specific genetic abnormalities influence the degradation of collagen and elastin, resulting in a loss of facial volume and wrinkles. External variables, including UV exposure, smoking, alcohol consumption, pollution, and poor diet, have a more significant impact on wrinkle risk.

Based on your genetic results, you are likely to have a lower risk of developing wrinkles than the general population. This suggests that you have a higher ability to synthesize collagen and elastin, which leads to good skin elasticity.

#### Recommendations:

- You should use cream with SPF every day on your face and neck, even when it isn't sunny, as UVA can damage skin all year round. SPF can protect skin from harmful UV rays that prematurely age the skin
- Use retinoids as they can inhibit the breakdown of collagen.
- Eat a healthy and well-balanced diet with antioxidants
- Buy AHA/BHA peels

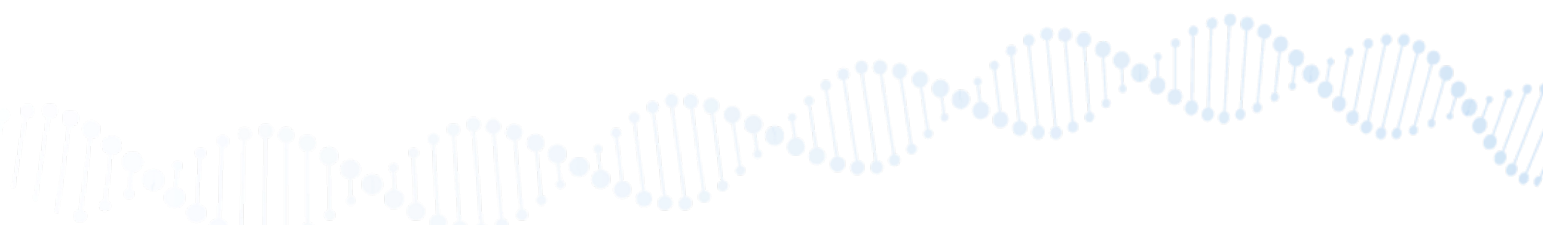


- Look for creams, gels, or cleansers with Glycolic acid

**Detected Genes:**

ELN, IRF4

**SAMPLE REPORT**



## Lifestyle

### Skin and Beauty

#### Skin Lightening Ability



#### Explanation:

Skin lightening is a widespread technique in Asia and Africa. It involves using topical products to lighten the skin's color by lowering melanin levels (the brown pigment that gives our skin its color).

Skin whitening is frequently used to treat hyperpigmentation, a skin disorder that causes darkened patches on the face, hands, and other sun-exposed areas. In addition, hormonal changes (like pregnancy) can cause an overproduction of melanin in the body, causing hyperpigmentation patches.

Tyrosinase is an enzyme that catalyzes the synthesis of melanin. Your skin's reaction to skin whitening agents is partly inherited.

Based on your genetic results, you are likely to have an average ability for skin lightening. This suggests that you may combat hyperpigmentation and the rest of the general population.

We examined your skin-lightening genes. Rather than affecting your trait individually, these genes work together to form your phenotype. If you have one or more of the markers linked to melanin production, you will have an increased ability to lighten your skin.



## Recommendations:

Fewer pigmentation implies more minor blemishes and an equal skin tone. And it can be done with simple skincare products and no medical procedures. For example, skin lightening products target specific discolorations such as age spots, acne scars, and bruises.

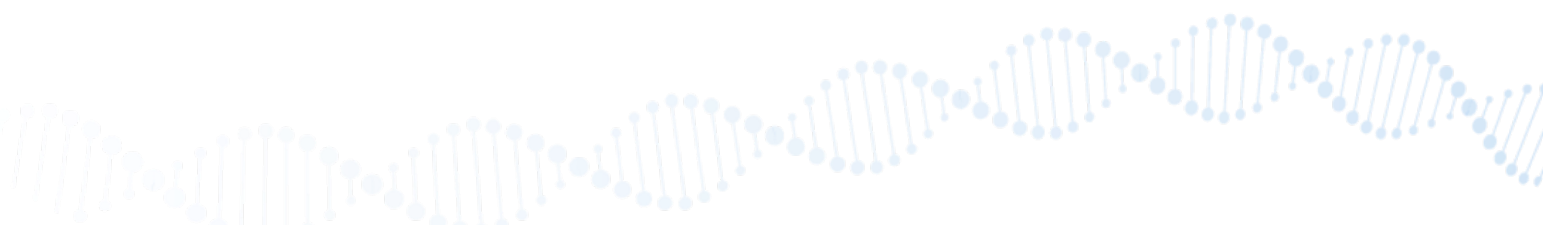
- Lightening creams operate by reducing melanin pigmentation on the skin.
- In addition, certain plant extracts and dietary adjustments can help naturally lighten your skin.
  - Plant Extracts: Bearberry, Licorice Root
  - Dietary Adjustments: Kojic acid from fermented mushrooms or malted rice and Limit your meat intake, whole-fat dairy, and butter. Instead, include plenty of vegetables, beans, and legumes. Choose vegetable oils over animal fat. These will generate a protective effect against cutaneous actinic damage.

## Fact:

This natural skin lightening component is derived from the bearberry plant and contains arbutin, a natural skin lightener. In addition, sun protection filters in bearberry extract counteract the effects of sun exposure and slow the consequences of aging.

## Detected Genes:

GRM5, IRF4, CPNE7, EXOC2, HERC2, DBNDD1, PAPOLA, PRDM15, SLC45A2, PPARGC1B



## Lifestyle

## Sports and Fitness

### Blood Flow



### Explanation:

Blood flow is the movement of blood through a vessel, tissue, or organ initiated by the contraction of the heart's ventricles. A variety of things influence blood flow capacity and pressure in our bodies. One of these is the ACE gene. Our renin-angiotensin system (RAS) and endocrine system affect blood plasma and local tissues such as the heart, blood arteries, and kidneys.

Symptoms of poor circulation are often easy to spot. They include muscle cramping, constant foot pain, and pain and throbbing in the arms and legs. As well as fatigue, varicose veins, and digestive issues.

Leg cramps while walking and wounds that don't seem to heal in your legs, feet, and toes are also symptoms. Cognitive dysfunction such as confusion or memory loss can happen because of a lack of blood and oxygen to the brain.

You're likely to have high blood flow capacity based on your genetic results. You're prone to average muscle efficiency and aerobic capacity, with oxygen and nutrients effectively supplied to your muscle tissue.

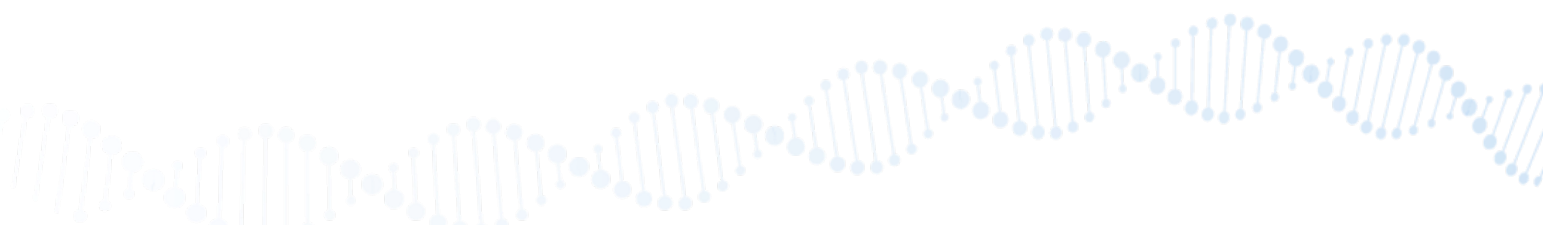


**Recommendations:**

1. Increase cardiovascular exercise. Running, biking or walking can help boost circulation—and the same goes for stretching before and after exercising.
2. If you smoke, quit. Smoking can inhibit blood flow, destroy blood vessel walls, and cause plaque to accumulate in the veins. “The sooner you quit smoking, your health will improve,” says Dr. Moghaddam.
3. Drink black or green tea. “The antioxidants in these drinks help increase the width of the blood vessels so that your body can pump blood more easily,” says Dr. Moghaddam.”

**Detected Genes:**

ACE

**SAMPLE REPORT**

## Lifestyle

### Sports and Fitness

#### Water Loss



#### Explanation:

Water loss from the body occurs predominantly through the renal system. A person produces an average of 1.5 liters (1.6 quarts) of urine per day. Although urine volume varies in response to hydration levels, a minimum volume of urine production is required for proper bodily functions.

When free water loss exceeds free water intake, we call it "dehydration." It lacks total body water with an accompanying disruption of metabolic processes.

Based on your genetic results, you're likely to lose a below-average amount of water during exercise.

#### Recommendations:

You have a below-average rate of water loss; however, to ensure you are sufficiently hydrated before and during exercise, you should drink no less than 500ml of electrolyte-rich sports drinks or water 40 to 60 mins before a workout, then drink no less than 100ml of sports drink or water for every 15 minutes during and after exercise.

SAMPLE REPORT



## Lifestyle

## Sports and Fitness

### Injury Risk



#### Explanation:

Based on your genetic results, you have an average risk for sport-related soft tissue injury

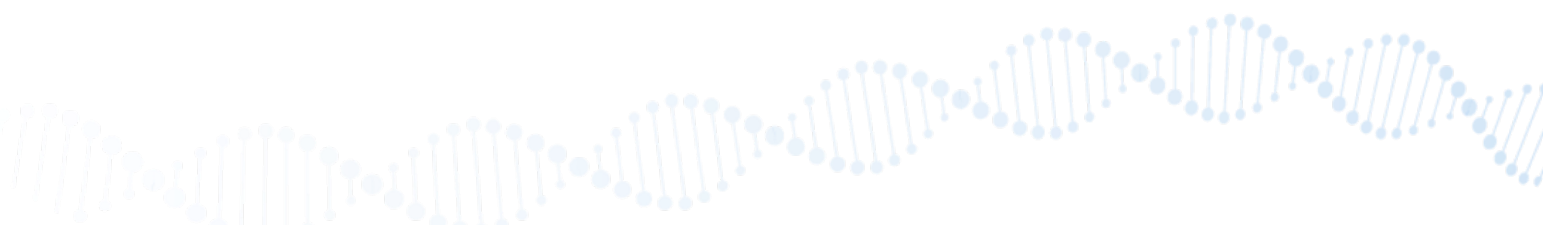
#### Recommendations:

Still, make sure you focus on warming up and cooling down before and after exercising, mainly focusing on stretching your lower body (ankles and knee joints) to help prevent injuries.

#### Detected Genes:

MMP3, MYLK, ACTN3, LILRB5, TRIM63, SLC16A1

SAMPLE REPORT



## Lifestyle

## Sports and Fitness

### Power Capacity



#### Explanation:

Genetic factors determine how your body responds to certain types of exercise, specifically how well you could respond to the particular methods you use to reach your fitness goals; power-influenced training is one of those methods. Power activities are classified as very high intensity, such as lifting weights for low reps, sprinting, and boxing - i.e., high-intensity exercises performed quickly over a short period. Your genetic power capacity indicates how likely you are to respond to power stimuli, not necessarily how good you currently are at those activities.

Based on your genetic results, you're likely to respond low to power-based high, intensity exercise.

We tested genes that affect your power capability. Power training is described as high-intensity exercise done rapidly. Your body needs short bursts of high-intensity power to work out with energy. We compiled your body's response to crucial genes connected with power training to develop the optimal fitness plan and enhance your training efficiency based on genetics.

#### Recommendations:

Your genetic test results indicate that you have a low power response. The genes examined here are involved in the structural components of your muscles and your nutrition use during exercise. In your instance, you should place a soft focus on power exercises such as sprinting or high-intensity weight training in your training

routine.

**Fact:**

Three Types of Strength: Explosive, Maximum, and Endurance:

1. Explosive strength is the ability to exert great force quickly. To increase yours, attempt forceful movements in short bursts—Olympic weightlifting and throwing.

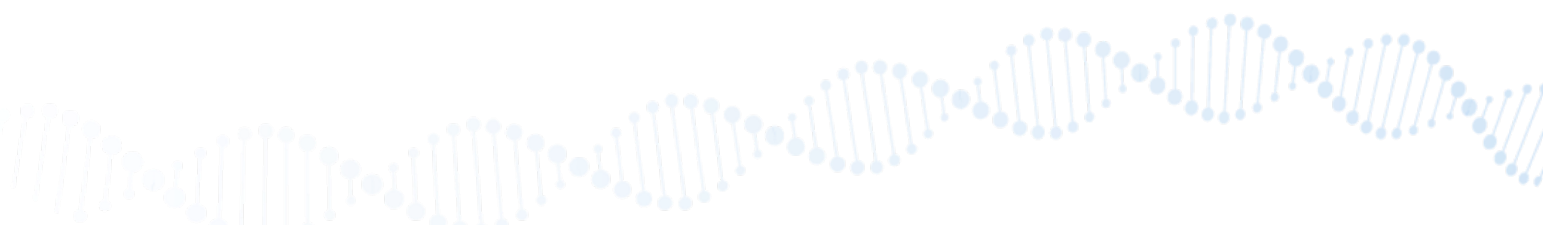
2. Maximum (absolute) strength is recruiting and engaging all motor units to generate maximal strain against an external resistance. Lift or push large weights slowly to enhance yours. squat, deadlift, and bench press

3. Strength endurance refers to the capacity to sustain muscular contractions or a constant level of muscle force over an extended period. Keep practicing long motions or workouts to build endurance strength and lose weight—Kettlebell, CrossFit, rowing, etc.

**Detected Genes:**

ACE, AGT, NOS3, ACTN3, ADRB2, PPARA, PPARG, VEGFA, BDKRB2, GABPB1, PPARGC1A

SAMPLE REPORT



## Lifestyle

## Sports and Fitness

### Body Composition



#### Explanation:

Lean body mass is calculated as the difference between non-fat and body fat weight, or more simply, the weight of everything except the fat. The non-fat components are further broken down into muscle and bone mass.

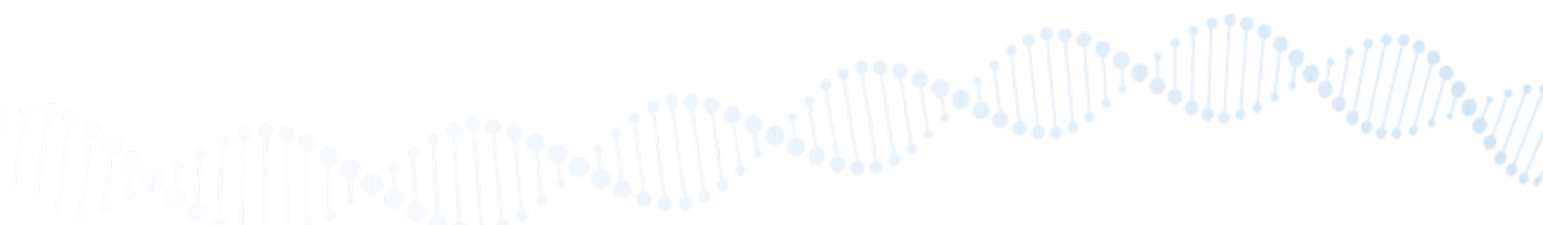
Based on your genetic results, you are likely to have a medium lean body mass, suggesting that you may have a good energy burn.

#### Recommendations:

1. Lifting weights or weight training exercises can help you gain muscular mass. To maintain your muscles strong and slim, try adding 3-4 strength training sessions each week to your workout.
2. You'll need extra protein to maintain muscle mass if you're aiming to gain muscle. Increase your intake of lean meats.
3. If you're a vegetarian, try an after-workout snack of a low/no-sugar protein smoothie or protein bar.

#### Detected Genes:

ACE, ACTN3



## Lifestyle

## Sports and Fitness

### Strength Profile



#### Explanation:

Strength is the most significant force that a muscle or set can produce during a single contraction. This attribute informs your body's response to critical genes involved with solid potential. Utilize this trait to determine the most effective methods for increasing your strength and muscular growth.

Based on your genetic results, you are likely to respond low to strength-based activities.

We tested genes linked to your strength profile. Regardless of your score, you can improve your strength capacity by altering the frequency/volume of strength exercise to overcome or offset your genetic propensity.

#### Recommendations:

Given your inherent proclivity for muscle development, you should prioritize strength workouts in your training routine. Strength-based resistance training consists of four sets of 8-12 reps followed by a 90-second rest period; for fitness development, use intermediate-length intervals of 30-60 seconds of exercise followed by 60-90 seconds of rest. In addition, consuming a proper amount of protein will aid in recovery and muscle building following strength training.

Four critical aspects of strength can be developed using various strength training approaches.

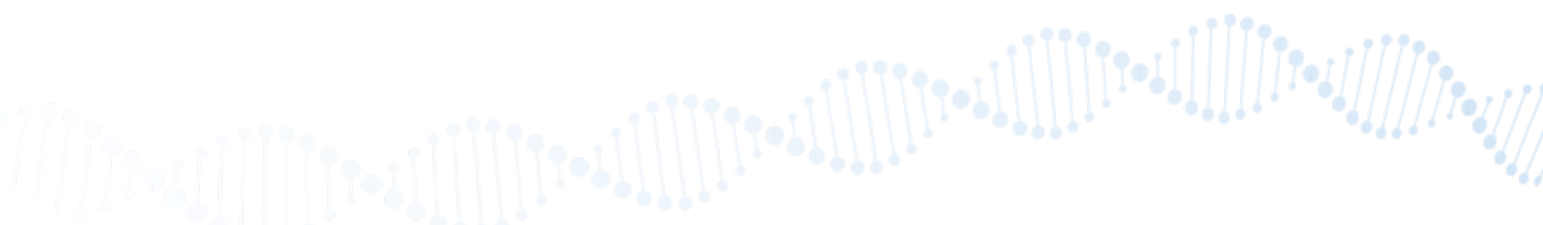


1. Explosive strength training – executing explosive movements in a short period.
2. Maximal strength training – controlled and slow lifting or pushing of big weights.
3. Muscle size training – aimed at increasing lean muscle mass.
4. Strength endurance training – the practice of completing an exercise repeatedly over a prolonged length of time.

**Detected Genes:**

ACE, AGT, NOS3, ACTN3, ADRB2, PPARA, PPARG, VEGFA, BDKRB2, GABPBI, PPARGC1A

**SAMPLE REPORT**





## Lifestyle

## Sports and Fitness

### Lactate Clearance



#### Explanation:

Based on your genetic results, you're likely to clear lactate build-up on average compared to other populations.

During exercise, our muscles can demand energy production faster than our bodies can deliver oxygen, forcing our muscles to produce energy without oxygen. A by-product of this process is lactate, which leads to muscle fatigue. The lactate must be cleared to allow the muscles to recover and continue with exercise.

#### Recommendations:

You can train your body to clear lactate faster by exercising for a short period at high intensity, followed by a recovery period, and repeat this cycle. This allows you to clear lactate while working on your muscles and delay the threshold point you have to stop exercising.

If you want to utilize anaerobic training longer, consider using bicarbonates as a supplement or in the form of baking soda dissolved in water before and after exercise. Mix 0.3g of baking soda for every kilogram of body weight into 350 ml of cold water. This will replenish the bicarbonate loss in the muscles caused by lactate production.

#### Build up your Lactate Clearance

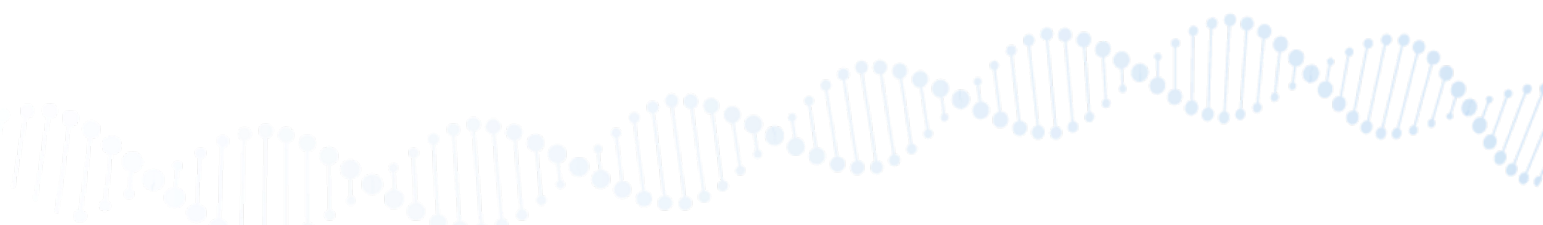
You may train your body to clear lactate faster, allowing you to increase workout duration and intensity. For example, exercising at a high intensity for a short time,

followed by a recovery phase' of reduced intensity. Repeating this cycle helps you eliminate lactate while still working your muscles and postponing the point you must stop.

**Detected Genes:**

ACE, VEGFA, SLC16A1

**SAMPLE REPORT**



## Lifestyle

### Sports and Fitness

#### Endurance Capacity



#### Explanation:

Endurance training is described as a lower-intensity exercise conducted over a more extended period. Your DNA may predispose you to be a stronger endurance responder, indicating that your muscles are built for repetitive efforts such as high-repetition weight training or longer aerobic workouts.

Based on your genetic results, you're likely to have a low response to endurance-focused low, intensity exercise.

#### Recommendations:

Your genetic test results reveal that you have a low endurance response. The genes tested here are associated with structural components of your muscles and how you utilize nutrients during training. In your case, you should place a low priority on endurance exercises in your workout. However, you can improve your endurance by continuous training with your heart rate staying between 60–80% of its maximum, without any rest periods. It typically involves aerobic activities such as long-distance running, cycling, and swimming.

#### Detected Genes:

ACE, AGT, NOS3, ACTN3, ADRB2, PPARA, PPARG, VEGFA, BDKRB2, GABPB1, PPARGC1A

## Lifestyle

## Sports and Fitness

### Fatigue Resistance



#### Explanation:

Our muscles require more energy during high-intensity exercise, which sometimes exceeds our ability to generate energy. Our muscle fibers lose the force needed to contract, requiring recovery to replenish the energy stores. Some individuals are more resistant to this muscular fatigue due to hereditary and environmental factors.

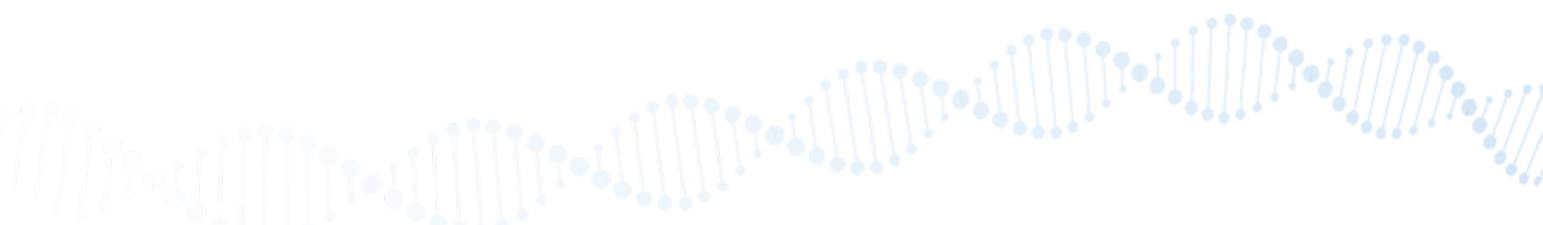
Based on your genetic results, your fatigue resistance is likely on average for all populations. That means you have the average capability for carrying out sustained muscle work.

#### Recommendations:

1. You should listen to your body – fatigue is a sign that recovery has not taken place yet. If that is the case, do not perform the high-intensity exercise until you feel fully recovered and recharged.
2. Instead, active recovery is allowed, which means participating in low impact and low-intensity exercises such as walking, light swimming, etc.

#### Detected Genes:

CDK18, SLC16A1



## Lifestyle

## Sports and Fitness

### Lactate Production



#### Explanation:

Based on your genetic results, you're likely to produce lactate on average during exercise compared to other populations.

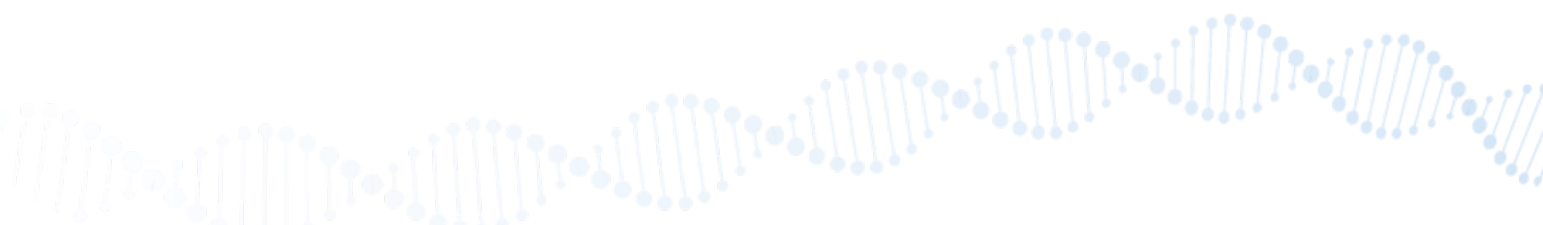
During exercise, our muscles can demand energy production faster than our bodies can deliver oxygen, forcing our muscles to produce energy without oxygen. A by-product of this process is lactate, which leads to muscle fatigue. Once lactate begins to build up in the muscles, it causes the burning sensation associated with intense exercise.

#### Recommendations:

If you want to utilize anaerobic training longer, consider using bicarbonates as a supplement or in the form of baking soda dissolved in water before and after exercise. Mix 0.3g of baking soda for every kilogram of body weight into 350 ml of cold water. This will replenish the bicarbonate loss in the muscles caused by lactate production.

#### Detected Genes:

ADRB2, PPARA, PPARGC1A



## Lifestyle

## Sports and Fitness

### Recovery Efficiency



#### Explanation:

Based on your genetic results, you're likely to recover moderately post-exercise. Recovery time is vital because this is when the body is rebuilding itself. A typical result suggests that your body most likely needs the standard recovery time of 2-3 days after the intense exercise.

#### Recommendations:

It's okay for you to stay active during the recovery period, but it's recommended that you not overdo it. It's still best to give yourself at least 2-3 days of rest before exercising again.

#### Detected Genes:

MMP3, MYLK, ACTN3, LILRB5, TRIM63, SLC16A1

SAMPLE REPORT



## Lifestyle

## Sports and Fitness

### Oxygens / VO2 Efficiency



#### Explanation:

VO2 max is the maximum amount of oxygen the body can utilize during exercise. It's a combination of how much oxygen-rich blood your heart can pump and the heart's efficiency in extracting and using oxygen.

Based on your genetic results, you're likely to have an average oxygen efficiency compared to other populations. This means that you can probably handle moderate-duration cardio workouts, but you may find it more difficult to exercise for a longer period of time

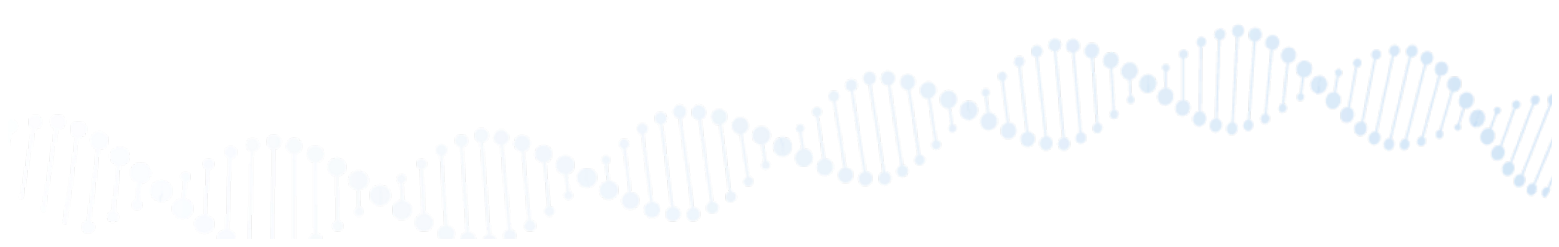
#### Recommendations:

Maintain a regular exercise routine to keep up your cardiovascular fitness by working out 2 to 4 times a week. Make sure you include both endurance and power activities into your training to improve your intermediate VO2 max tendency.

#### Detected Genes:

ADRB2, VEGFA, PPARGCIA

SAMPLE REPORT



## Lifestyle

### Sports and Fitness

#### Risk of Achilles Tendon Injury



#### Explanation:

Tendons are tough, flexible tissue made of collagen that connect muscle to bone. The Achilles tendon is the largest tendon in your body and one of the most multifunctional. It combines the muscles in the back of the calf to the bone at the bottom of the foot. Achilles tendon injuries occur more often during sports that involve running, jumping, and sudden starts and stops – such as soccer, basketball, and tennis.

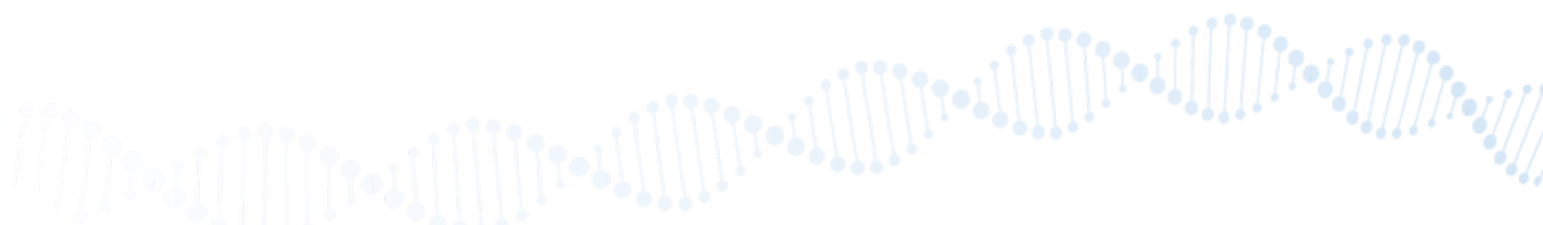
Based on your genetic results, you're likely to have a medium-low risk of getting an Achilles tendon injury. An Achilles injury usually occurs to people playing sports but can happen to anyone.

#### Recommendations:

1. Stretch and strengthen your calves. Stop exercising if you feel pain or tightness in the back of your calf or heel
2. Cut down on uphill running.
3. Wear shoes with good support that fit well.

#### Detected Genes:

GDF5, MPP7, CACNA1E, SMARCD1





## Lifestyle

### Sports and Fitness

#### Heart Rate Response to Exercise



#### Explanation:

The long-term heart rate response to exercise results in favorable changes in chronotropic function, including decreased resting and submaximal heart rate and increased heart rate recovery.

You are likely to have an average heart rate response when exercising based on your genetic results.

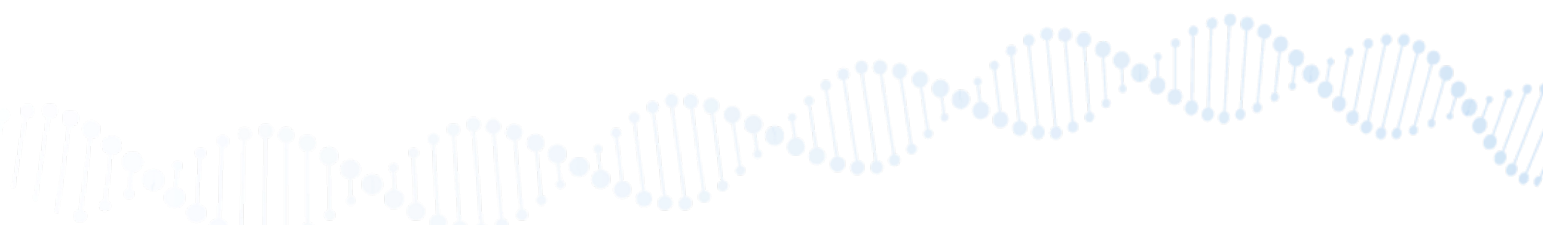
#### Recommendations:

Your heart is likely to be in good shape already. Maintain your cardiovascular health by engaging in regular exercise 2-4 times per week.

Research shows that individuals who have an unusually high or low heart rate during exercise are more prone to suffer from future adverse cardiac events or even sudden cardiac death. Hence, understanding why the human body reacts differently to exercise is essential. This can help us identify our risk factors and enable early monitoring or treatment when we are at risk.

#### Detected Genes:

MET, CAV1, CD46, GCKR, GNB4, HCN4, MYRF, PAX2, RGS6, SPEG, SRRT, TCF4, FHOD3, GNG11, IP6K1, MYH11, PDE3A, SYT10, ALG10B, DEPTOR, MED13L, SCN10A, CACNA1C, CCDC141, TP53III1, ARHGEF40, HLA-DRB1, KIAA1755



## Lifestyle

### Sports and Fitness

#### Exercise Associated Muscle Cramps



#### Explanation:

Exercise-associated muscle cramp (EAMC) is a temporary but intense and painful, involuntary contraction of a skeletal muscle occurring during or soon after a period of physical activity.

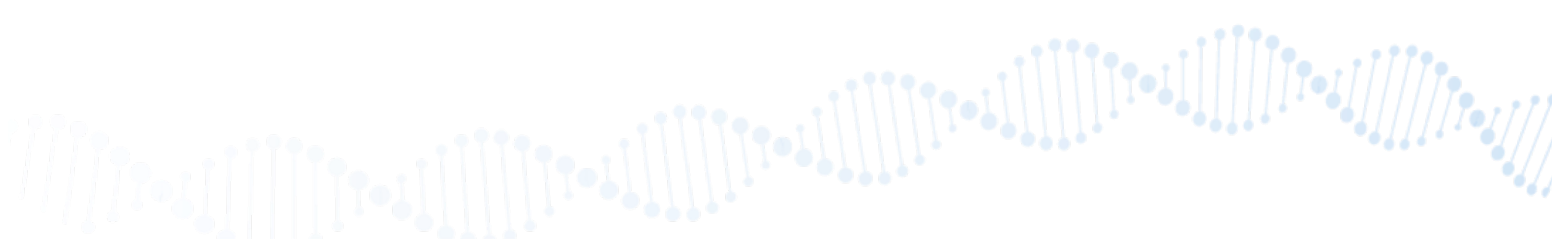
Elite athletes experience cramping due to paces at higher intensities. The cause of exercise-associated muscle cramps is hypothesized due to altered neuromuscular control, dehydration, or electrolyte depletion.

Based on your genetic results, you're less likely to experience muscle cramps in response to exercise.

#### Recommendations:

Make sure you stay hydrated before and during exercise. This can be done by consuming sodium-containing fluids, preventing muscle cramps. Also, ensure you stretch your muscle correctly before and after a workout.

SAMPLE REPORT



## Lifestyle

### Sports and Fitness

#### Risk of Anterior Cruciate Ligament Rupture



#### Explanation:

An anterior cruciate ligament injury occurs when the anterior cruciate ligament (ACL) is either stretched, partially torn, or completely torn. The most common injury is a complete tear. Symptoms include pain, an audible cracking sound during injury, instability of the knee, and joint swelling.

Based on your genetic results, you are likely to have a moderate risk of getting an anterior cruciate ligament (ACL) rupture.

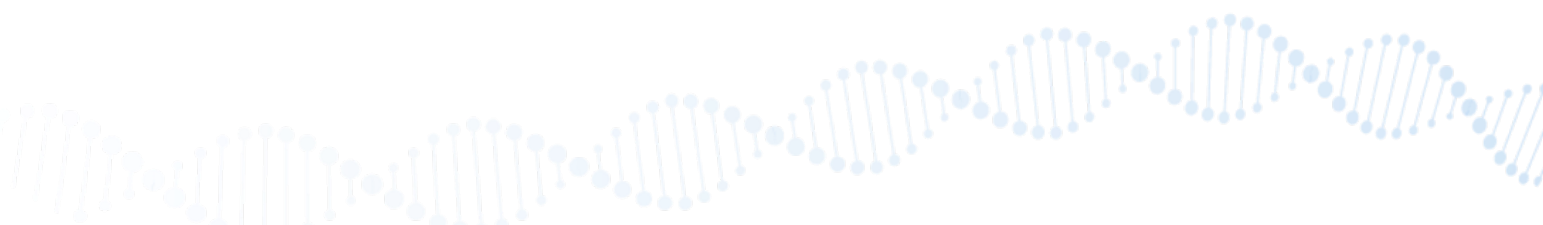
#### Recommendations:

It's worthwhile to practice proper exercise techniques to prevent joint injury. Warm-up and cool down before exercising to prepare your body for any impact. Further, avoid placing pressure on your knees.

You should stretch and strengthen calf muscles—alternate high-impact sports with low-impact sports.

#### Detected Genes:

KDR, COL1A1, COL12A1



## Lifestyle

### Vitamins and Minerals

#### Iron



#### Explanation:

Iron is a mineral that the body needs for growth and development. Your body uses iron to make hemoglobin, a protein in red blood cells that carries oxygen from the lungs to all body parts, and myoglobin, a protein that provides oxygen to muscles. Your body also needs iron to make some hormones.

Based on your genetic results, you are likely to have average Iron needs. This suggests that your body processes Iron more efficiently than individuals with higher needs.

#### Recommendations:

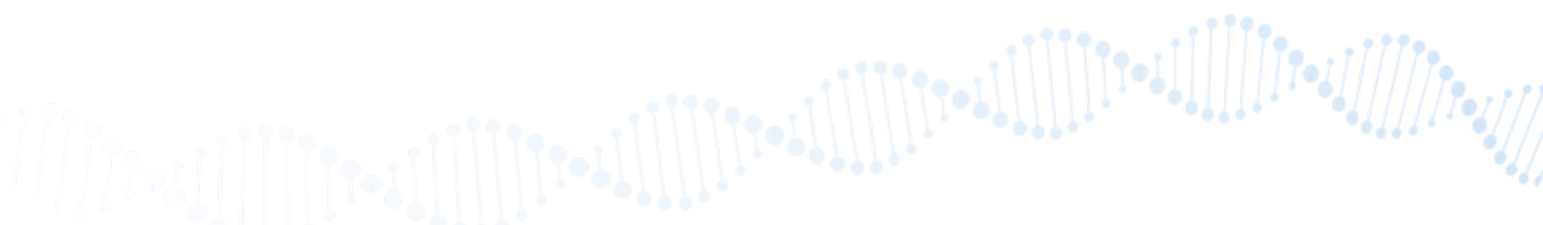
1. It is advisable to consume 8mg of iron daily for male adults and 18mg for female adults with normal needs.
2. Haem (meat and animal by-product) sources of iron have a much higher bioavailability than non-haem (plant-based food) sources. Lean meats, beef liver and seafood, especially oysters, are great sources of haem iron.
2. Even though non-haem sources of iron have a lower bioavailability, they still play an important part of a healthy diet. Excellent sources of non-haem iron include nuts, beans, vegetables such as spinach, and fortified foods such as bread, cereals and other grain products.



**Detected Genes:**

TF, HFE, TFR2, TMPRSS6

**SAMPLE REPORT**



## Lifestyle

## Vitamins and Minerals

### Zinc



#### Explanation:

Zinc is considered an essential nutrient, meaning that your body can't produce or store it. Zinc is required for numerous processes in your body, including Gene expression, Enzymatic reactions, Immune function, Protein synthesis, DNA synthesis, Wound healing, Growth, and development.

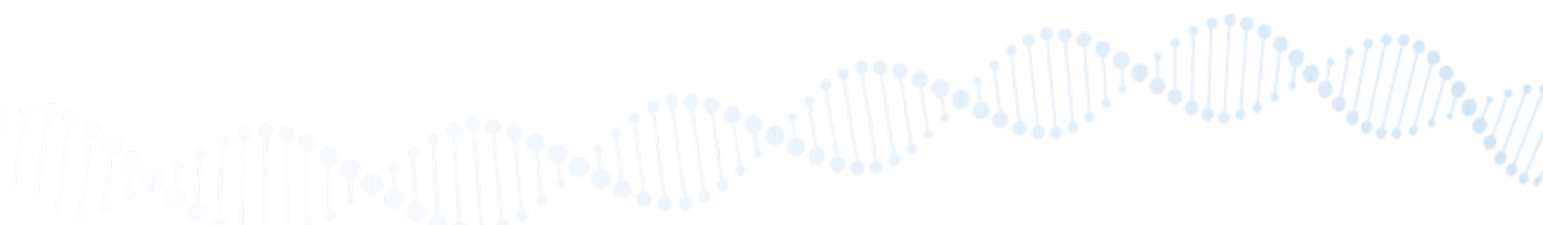
Based on your genetic results, you are likely to have average Zinc needs.

#### Recommendations:

1. Consume 8mg of zinc daily for women and 11mg for men to promote a healthy immune system and wound healing.
2. Eat a balanced and varied diet to meet your zinc needs. You can find adequate amounts of zinc in meat, shellfish, dairy, breads and cereals.
3. Phytate-rich foods such as legumes and whole grains bind with zinc and inhibit absorption into the body. Soaking them in water for several hours before cooking increases bioavailability of zinc from these foods.

#### Detected Genes:

SLC39A14



## Lifestyle

### Vitamins and Minerals

#### Iodine



#### Explanation:

Iodine is an essential trace mineral not made by the body, so it must be obtained by food or supplements. Iodine is needed to make the thyroid hormones thyroxine and triiodothyronine, which assist with creating proteins and enzyme activity and regulating normal metabolism.

Based on your genetic results, you are likely to have average iodine needs. This suggests that your body processes iodine more efficiently than individuals with higher needs.

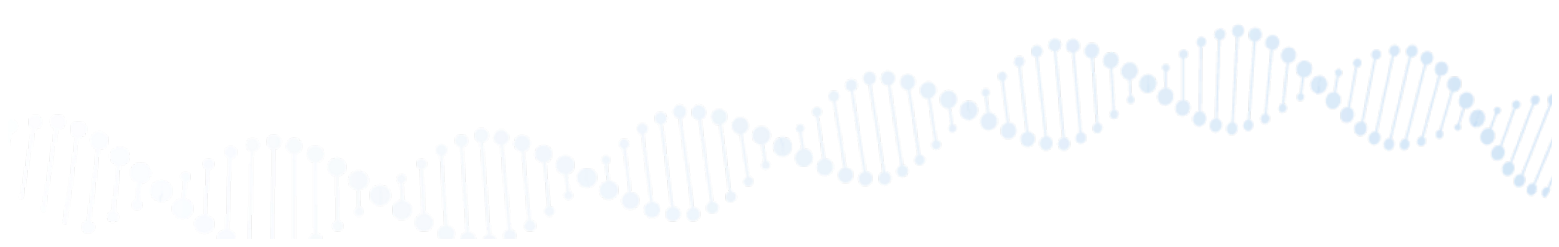
#### Recommendations:

1. Consume 150µg of iodine per day. Take an iodine supplement if you are not eating fish or dairy in your diet.
2. Choose iodine-rich foods such as white fish, egg/egg products, and milk/milk products to ensure a sufficient iodine intake.
3. Choose iodised salt over sea salt. There is 45µg of iodine in 1/4 teaspoons of salt.

#### Detected Genes:

GPX1

SAMPLE REPORT



## Lifestyle

## Vitamins and Minerals

### Calcium



#### Explanation:

Calcium is a mineral most often associated with healthy bones and teeth. However, it also plays a vital role in blood clotting, helping muscles contract, and regulating normal heart rhythms and nerve functions.

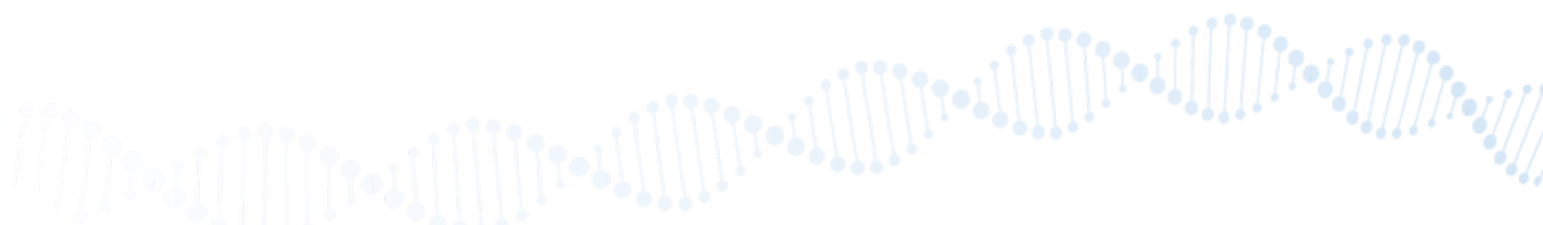
Based on your genetic results, you are likely to have average calcium needs. This suggests that your body processes calcium more efficiently than individuals with higher needs.

#### Recommendations:

1. Dairy such as milk, yoghurt and cheese is an excellent source of calcium. If you cannot tolerate lactose found in these products, try some low lactose dairy such as yoghurt or low-fat hard cheese such as cheddar, parmesan or Swiss. It is advisable for those with normal calcium needs to have a daily calcium intake of 1,000mg.
2. Including more vegetables into your diet such as spinach, kale and broccoli will give you an added calcium boost.
3. Vitamin D also plays an important role in maintaining healthy bones, and your body needs it to help it absorb calcium.

#### Detected Genes:

GC, VDR





## Lifestyle

## Vitamins and Minerals

### Selenium



#### Explanation:

Selenium is an essential component of various enzymes and proteins, called selenoproteins, that helps to make DNA and protect against cell damage and infections; these proteins are also involved in reproduction and the metabolism of thyroid hormones.

Based on your genetic results, you are likely to have average Selenium needs. This suggests that your body processes Selenium more efficiently than individuals with higher needs.

#### Recommendations:

1. A healthy person with normal needs should consume at least 26 $\mu$ g (for women) and 34mcg (for men) of selenium daily.
2. Most types of seafood are selenium-rich food sources. Eat seafood in place of red meat in one main meal, on a regular basis.
3. Opt for whole grains such as wholemeal bread, brown rice and oats instead of white, refined flour.

#### Detected Genes:

BHMT, KYNU, CMYA5, DMGDH, MYOM2, ZNF14, HOMER1, TXNRD1, ZNF521, DYNC2H1, SDCCAG8

## Lifestyle

## Vitamins and Minerals

### Magnesium



#### Explanation:

Magnesium plays many crucial roles in the body, such as supporting muscle and nerve function and energy production. Low magnesium levels usually don't cause symptoms. However, chronically low levels can increase the risk of high blood pressure, heart disease, type 2 diabetes, and osteoporosis.

Based on your genetic results, you are likely to have average Magnesium needs. This suggests that your body processes magnesium more efficiently than individuals with higher needs.

#### Recommendations:

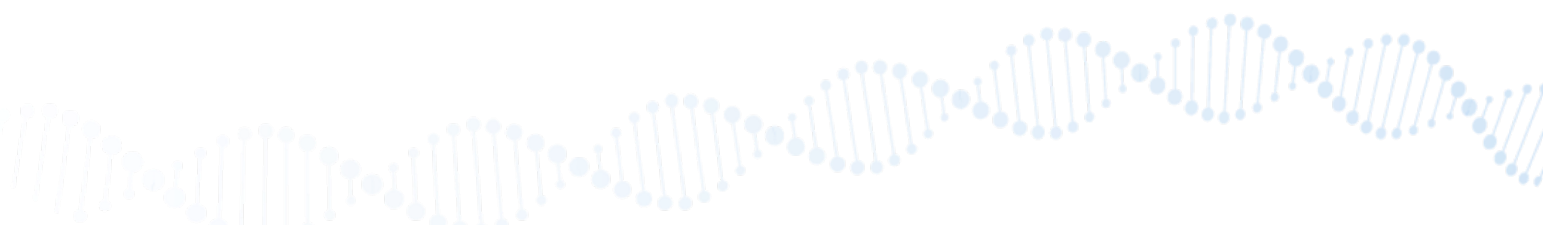
1. Consume items rich in magnesium such as green leafy vegetables, legumes, nuts, seeds, and whole grains. In general, foods containing dietary fibre provide magnesium. It is advisable to consume 310mg (for women) and 400mg (for men) of magnesium per day.
2. Soaking oxalate rich foods such as spinach before consuming them may increase the bioavailability of magnesium. Ensure you do so before cooking.
3. A high coffee intake leads to a diuretic loss of magnesium and excess circulating calcium leached from the bones. Hence, limit your coffee consumption per day.



**Detected Genes:**

ATE1, SGCZ, CANT1, CDKL2, CNNM2, FGFR2, LUZP2, MECOM, PRMT7, TRPM6, VIPRI, CLDN16, PAPSS2, TRIM46, PHACTR2, METTL21C

**SAMPLE REPORT**



## Lifestyle

## Vitamins and Minerals

### Vitamin A



#### Explanation:

Vitamin A (retinol, retinoic acid) is a nutrient essential to vision, growth, cell division, reproduction, and immunity.

Based on your genetic results, you are likely to have lower Vitamin A needs. This suggests that your body can process Vitamin A more efficiently compared to individuals with normal needs.

#### Recommendations:

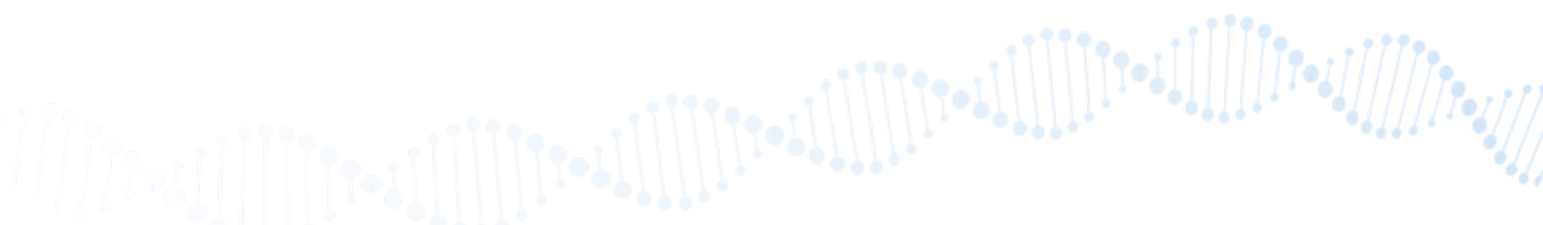
1. Chicken liver and organ meats are excellent sources of vitamin A. However, they are high in cholesterol, so limit how much you eat. It is advisable to consume at least 500mcg RE/day and 600mcg RE/day for women and men, respectively, but not exceeding 3,000mcg.
2. Consume various fruits and vegetables for a vitamin A boost. Include green leafy vegetables and other green, orange, and yellow vegetables such as broccoli, carrots, squash, and fruits (cantaloupe, apricots, and mangoes).
3. Cooking can decrease the vitamin content of food and the level of provitamin A (beta-carotene) by close to 50% - and even more with harsher cooking methods such as frying and roasting.



**Detected Genes:**

BCO1

**SAMPLE REPORT**



## Lifestyle

## Vitamins and Minerals

### Vitamin C



#### Explanation:

Vitamin C is an antioxidant that helps protect your cells against the effects of free radicals – molecules produced when your body breaks down food or is exposed to tobacco smoke and radiation from the sun, X-rays, or other sources. Free radicals might play a role in heart disease, cancer, and other diseases.

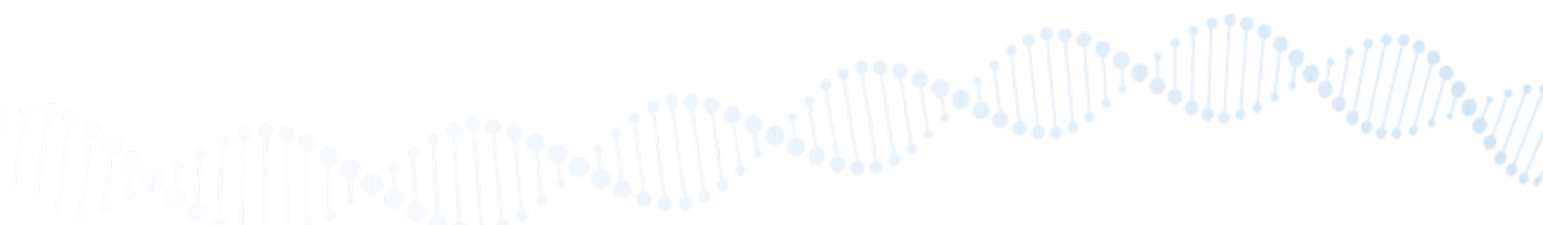
Based on your genetic results, you are likely to have lower Vitamin C needs. This suggests that your body can process Vitamin C more efficiently compared to individuals with higher needs.

#### Recommendations:

1. A healthy person with average needs should consume at least 75mg (for women) and 90 mg (men) of vitamin C (ascorbic acid) daily.
2. Include vitamin C-rich foods into your diet. You can get at least 75mg of vitamin C from eating 2 kiwifruits, 1.5 oranges, or 1 cup of broccoli.
3. Consider taking a vitamin C supplement if you find achieving your daily requirement from food alone difficult.

#### Detected Genes:

SLC23A1



## Lifestyle

## Vitamins and Minerals

### Vitamin D



#### Explanation:

Vitamin D is essential for several reasons, including maintaining healthy bones and teeth. It may also protect against various diseases and conditions, such as type 1 diabetes.

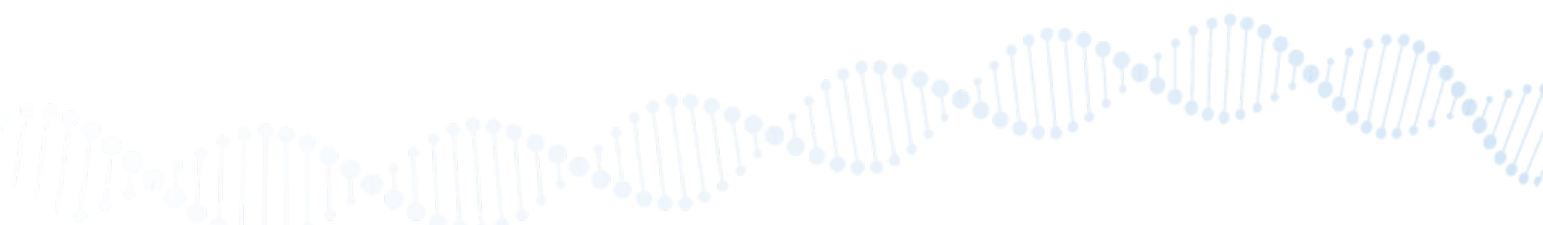
Based on your genetic results, you are likely to have an average level of Vitamin D needs compared to individuals with higher needs.

#### Recommendations:

1. Consume 600 IU (15mcg) of vitamin D per day.
2. Achieve your daily requirement by exposing your skin to sunlight for 10–15 minutes each day. Also include more vitamin D-rich foods such as oily fish or mushrooms into your diet.
3. Consider taking a vitamin D supplement if you find achieving your daily requirement from food alone difficult.

#### Detected Genes:

GC, VDR, CYP24A1, NADSYN1



## Lifestyle

## Vitamins and Minerals

### Vitamin E



#### Explanation:

Vitamin E is an essential vitamin required for the proper function of many organs. It is also an antioxidant.

Based on your genetic results, you are likely to have lower Vitamin E needs. This suggests that your body can process Vitamin E more efficiently compared to individuals with normal needs.

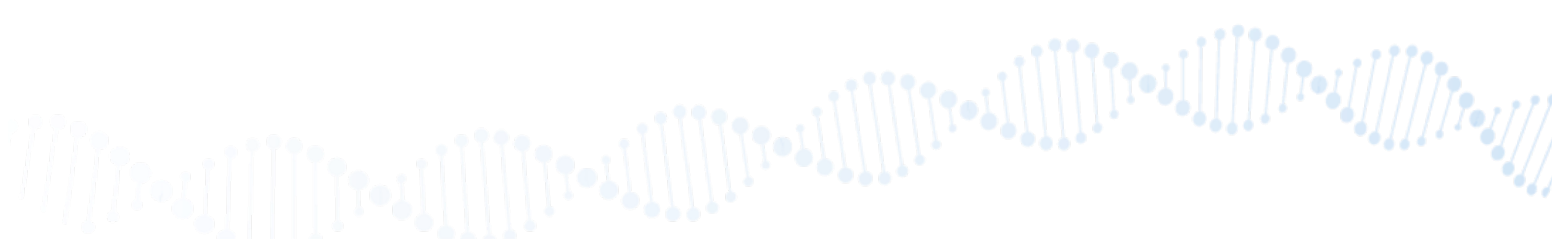
#### Recommendations:

1. A small handful of nuts such as almonds, hazelnuts, or peanuts each day make for an excellent vitamin E-boosting snack. Aim to get at least 15mg of vitamin E each day.
2. Grapeseed, flaxseed, sunflower, and canola oils are excellent sources of vitamin E. Oils are very high in fat, so be mindful not to consume too much.
3. Choosing fruits such as kiwifruit and mango and vegetables like spinach, broccoli, or tomato are a great way to top up your vitamin E levels.

#### Detected Genes:

CYP4F2, SCARB1

SAMPLE REPORT





## Lifestyle

## Vitamins and Minerals

### Folic Acid



#### Explanation:

Folate (vitamin B-9) is essential in red blood cell formation and healthy cell growth and function. Its crucial role is in making DNA. The human body does not store folic acid, so you need to consume it daily. This nutrient is vital during early pregnancy to reduce the risk of brain and spine birth defects.

You are likely to have low folic acid needs based on your genetic results. This suggests that your body processes folic acid more efficiently compared to individuals with higher needs.

#### Recommendations:

1. Consume at least 400mcg folic acid per day.
2. Include folate-rich foods into your diets, such as lentils, asparagus, and eggs. To get 400mcg folic acid, have around 1 cup of lentils.
3. Consider taking a folic acid supplement if you find achieving your daily requirements from food alone difficult or if you are trying to conceive.

SAMPLE REPORT



## Lifestyle

## Vitamins and Minerals

### Phosphorus



#### Explanation:

Phosphorus is a mineral that makes up 1% of a person's total body weight. It is the second most abundant mineral in the body. It is present in every cell of the body. Most of the phosphorus in the body is found in the bones and teeth.

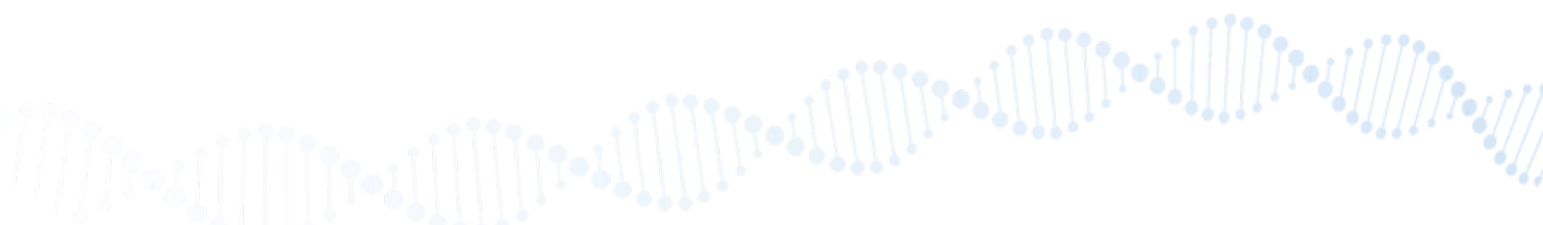
Based on your genetic results, you are likely to have average Phosphorus needs. This suggests that your body processes Phosphorus efficiently compared to individuals with higher needs.

#### Recommendations:

1. Consume 700mg of phosphorus per day.
2. Boiling causes the demineralisation of food, thus reducing its phosphorus content. It is advised to consume boiled food together with the liquid it's cooked in, or to choose cooking methods other than boiling such as stewing and poaching.
3. Phosphorus can naturally be found in protein-rich foods such as meat, poultry, fish, nuts, beans and dairy products. Phosphorus found in animal foods is absorbed more easily than phosphorus found in plant foods.

#### Detected Genes:

CSTA, IP6K3, NBPF3, PDE7B



## Lifestyle

### Vitamins and Minerals

#### Vitamin B2



#### Explanation:

B2 vitamins help the body convert food (carbohydrates) into fuel (glucose), which is used to produce energy. B vitamins, often called B-complex vitamins, also help the body metabolize fats and protein. Based on your genetic results, you are likely to have lower Vitamin B2 needs. This suggests that your body can process Vitamin B2 more efficiently compared to individuals with normal needs.

#### Recommendations:

1. A healthy person with average needs should consume at least 1.1mg (for women) and 1.3mg (men) of vitamin B2 (riboflavin) daily.
2. Vitamin B2 is water-soluble, so cooking with a lot of water (i.e., boiling) can decrease B2 levels in food. Steaming or microwaving is the best way to minimize losing B2 when cooking.

## Lifestyle

## Vitamins and Minerals

### Vitamin B6



#### Explanation:

Vitamin B-6 (pyridoxine) is essential for normal brain development and keeping the nervous system and immune system healthy.

Based on your genetic results, you are likely to have lower Vitamin B-6 needs. This suggests that your body can process Vitamin B-6 more efficiently compared to individuals with normal needs.

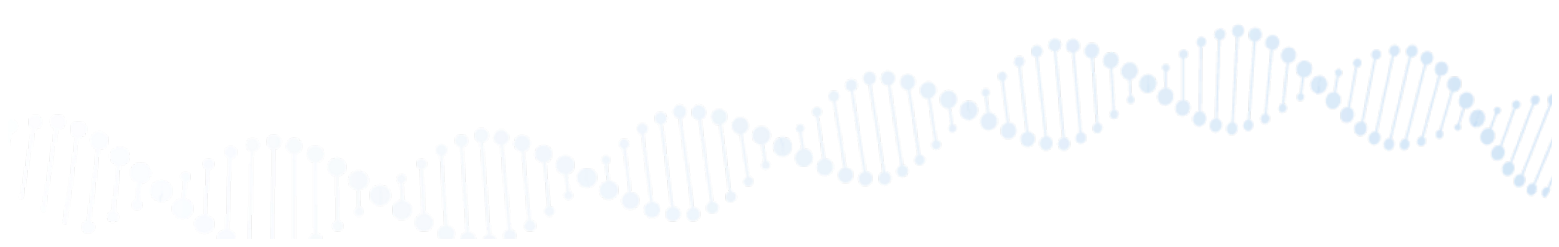
#### Recommendations:

1. Consume at least 1.3mg of vitamin B6 per day.
2. Include more vitamin B6-rich foods into your diets, such as tuna, wheat bran, avocado, or banana.
3. Consider taking a vitamin B6 supplement if you find meeting your daily requirements from food alone difficult.

#### Detected Genes:

NBPF3

SAMPLE REPORT



## Lifestyle

## Vitamins and Minerals

### Vitamin B12



#### Explanation:

Vitamin B-12 (cobalamin) plays an essential role in red blood cell formation, cell metabolism, nerve function, and the production of DNA, the molecules inside cells that carry genetic information.

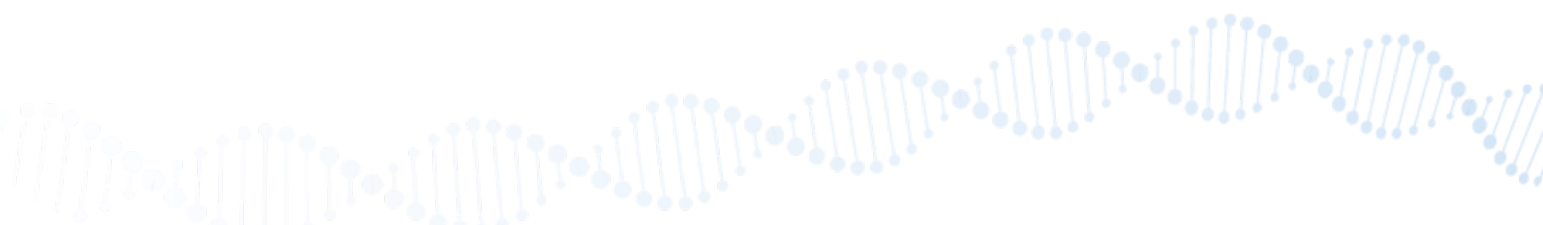
Based on your genetic results, you are likely to have lower Vitamin B-12 needs. This suggests that your body can process Vitamin B-12 more efficiently compared to individuals with normal needs.

#### Recommendations:

1. Consume at least 2.4mcg of vitamin B12 per day.
2. Include vitamin B12-rich foods into your diet. You can get 2.4mcg of vitamin B12 from eating 1/3 fillet of trout, 1 fillet of sardine, and B12-fortified plant foods (e.g., breakfast cereals and soy products).
3. If you are a strict vegetarian, or if you struggle to meet your daily requirements from food alone, a B-group vitamin supplement containing B12 is recommended.

#### Detected Genes:

FUT6



## Lifestyle

### Vitamins and Minerals

#### Antioxidants



#### Explanation:

Antioxidants are substances that may protect your cells against free radicals; Free radicals are molecules produced when your body breaks down food or when you're exposed to tobacco smoke or radiation, which may play a role in heart disease, cancer, and other diseases.

You are likely to have moderate antioxidant needs based on your genetic results. This suggests that your body can process antioxidants efficiently.

#### Recommendations:

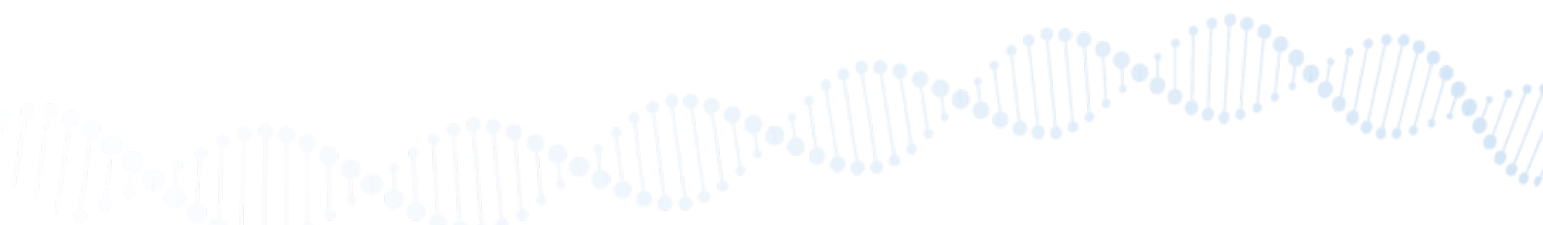
1. Consume five servings of antioxidant-rich vegetables such as kale, spinach and red bell peppers per day. One serving is equal to one bowl of uncooked vegetables or 1/2 bowl of cooked vegetables.
2. Eat two servings of antioxidant-rich fruits such as strawberries, raspberries and cranberries per day. One serving is equal to 1/2 cup of fruit.
3. Include more fresh foods into your diet as antioxidants in food are easily damaged by processing.
4. Bananas contain the antioxidants: vitamins A, C and E. Goji berries, blueberries and pomegranates are also great sources of antioxidants.



**Detected Genes:**

CAT, GPX1, SLC23A1

**SAMPLE REPORT**



## Lifestyle

## Vitamins and Minerals

### Omega-3 (ALA)



#### Explanation:

Omega-3 (ALA) is essential for maintaining healthy cognitive function and improving cardiovascular health.

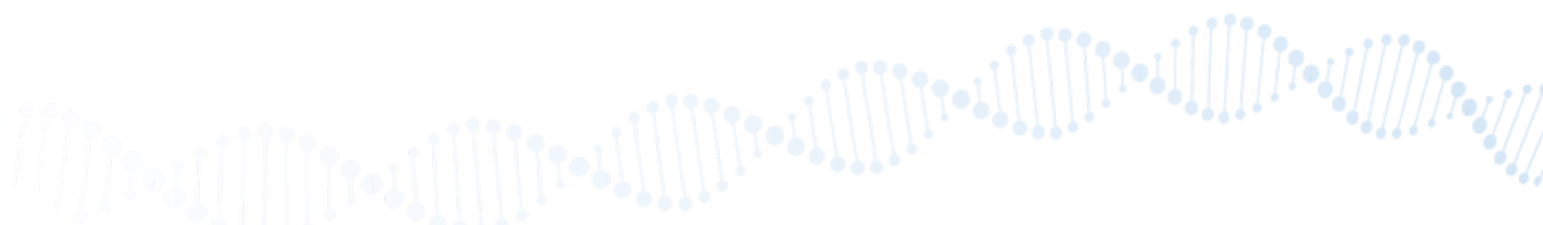
Based on your genetic results, you are likely to have average Omega-3 (ALA) needs. This suggests that your body processes Omega-3 (ALA) more efficiently than individuals with higher needs.

#### Recommendations:

1. Limit your omega-6 intake such as sunflower oil or soybean oil, as omega-6 fatty acids reduce the amount of ALA converting to DHA and EPA.
2. Include 30g of nuts and seeds into your diet to increase your ALA intake.
3. Consume 1.6g of omega-3 ALA per day. ALA-rich oils include canola oil, flax oil or hemp oil.

#### Detected Genes:

LCT, GCKR, MYRF, BEST1, CSMD1, DAGLA, FADS3, STIM2, TSHZ3, AGPAT3, CEPI20, PDXDC1, SEMA5A, SYCP2L, RAB31L1, KIAA0825





## Lifestyle

## Vitamins and Minerals

### Omega-3 (DHA)



#### Explanation:

Docosahexaenoic acid, or DHA, is a type of omega-3 fat. Your body can only make a small amount of DHA from other fatty acids, so you need to consume it directly from food or supplements. DHA and EPA may help reduce inflammation and your risk of chronic diseases, such as heart disease.

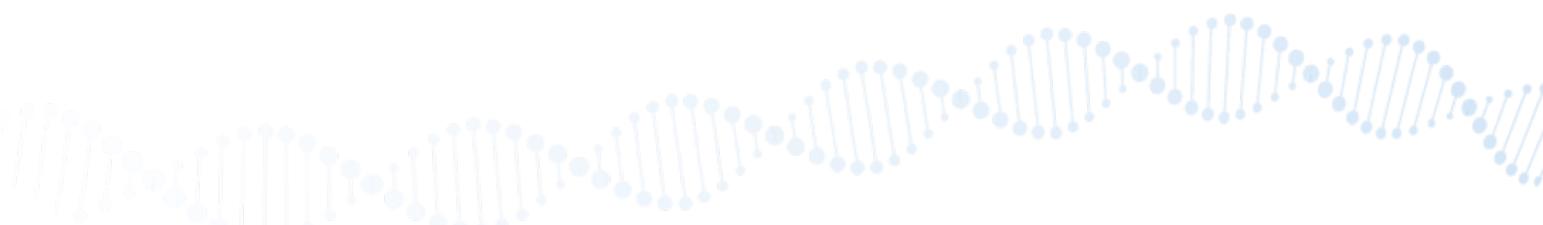
You are likely to have lower omega-3(DHA) needs based on your genetic results. This suggests that your body can process omega-3(DHA) more efficiently compared to individuals with normal needs.

#### Recommendations:

1. Consume a combination of 2g of omega-3 DHA and EPA per day.
2. Include omega-3 DHA-rich food into your diet. You can get 2g of DHA from eating 8 tablespoons of oily fish.
3. Follow dietary guidelines of consuming at least 3 servings (1 serving - 90g) of omega-3-rich fish per week.

#### Detected Genes:

CUX1, RND3, SOX5, VAV3, EPHA4, SYCP2L, HLA-DMA



## Lifestyle

## Vitamins and Minerals

### Omega-3 (DPA)



#### Explanation:

Docosapentaenoic acid (DPA) is a polyunsaturated omega-3 fatty acid found in fish oil. DPA is a component in the synthesis of DHA and EPA, which are essential for various biological processes.

You are likely to have lower (DPA) needs based on your genetic results. This suggests that your body can process omega-3 (DPA) more efficiently compared to individuals with normal needs.

#### Recommendations:

1. Follow dietary guidelines of at least two servings (1 serving - 90g) of omega-3-rich fish per week.
2. Include other omega-3-rich foods in your diets, such as flaxseeds and chia seeds. Ensure you limit omega-6-rich foods such as vegetable oil which may decrease your omega-3 levels.
3. Consider using a fish oil supplement containing 1-2g of fish oil if you find achieving your daily requirement from food alone.

#### Detected Genes:

GCKR, BEST1, DAGLA, FADS2, FADS3, STIM2, AGPAT3, SYCP2L, RAB31L1



## Lifestyle

### Vitamins and Minerals

#### Omega-3 (EPA)



#### Explanation:

Eicosapentaenoic acid (EPA) is one of several omega-3 fatty acids. It is found in cold-water fatty fish, such as salmon. It is also found in fish oil supplements and docosahexaenoic acid (EPA). Omega-3 fatty acids are part of a healthy diet that helps lower the risk of heart disease.

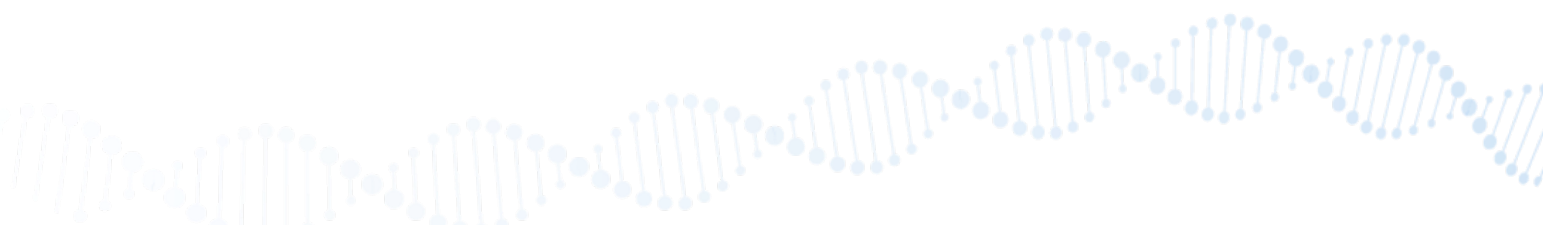
Based on your genetic results, you are likely to have average omega-3 (EPA) needs. This suggests that your body processes omega-3 (EPA) more efficiently than individuals with higher needs.

#### Recommendations:

1. Consume a combination of at least 0.25g DHA and EPA per day.
2. Include EPA-rich food in your diet such as salmon, sardines, and grass-fed meat.
3. Follow dietary guidelines of at least two servings (1 serving - 90g) of omega-3 rich fish per week.

#### Detected Genes:

TNC, CUX1, GCSH, MYRF, NAV2, BEST1, FADS3, TSHZ3, PAPOLG, RAB31L1



# Family Planning

**SAMPLE REPORT**





# Family Planning

## Inherited mutations

Deafness



Cystinosis



Tyrosinemia



Alkaptonuria



Galactosemia



Hemophilia B



Achromatopsia



Choroideremia



Citrullinemia



Mucopolidosis



Pompe Disease



SAMPLE REPORT



# Family Planning

## Inherited mutations

Salla Disease



Bloom Syndrome



Cohen Syndrome



Fanconi Anemia



Hellp Syndrome



Homocystinuria



Krabbe Disease



Usher Syndrome



Wilson Disease



Achondrogenesis



Canavan Disease



SAMPLE REPORT



# Family Planning

## Inherited mutations

Cystic Fibrosis



Gaucher Disease



Hyperinsulinism



Phenylketonuria



Pycnodysostosis



Segawa Syndrome



Gracile Syndrome



Joubert Syndrome



LCHAD Deficiency



MTHFR Deficiency



Pendred Syndrome



SAMPLE REPORT



# Family Planning

## Inherited mutations

Acute Fatty Liver



Alpha Thalassemia



Glutaric Acidemia



Nemaline Myopathy



Northern Epilepsy



Alpha-Mannosidosis



Andermann Syndrome



Isovaleric Acidemia



Sickle Cell Disease



Factor XI Deficiency



Niemann-Pick Disease



SAMPLE REPORT







# Family Planning

## Inherited mutations

Ataxia-Telangiectasia



Bardet-Biedl Syndrome



Diastrophic Dysplasia



Familial Dysautonomia



Mucopolysaccharidosis



Primary Hyperoxaluria



Aspartylglycosaminuria



Biotinidase Deficiency



Dilated Cardiomyopathy



Methylmalonic Acidemia



Alpha-Sarcoglycanopathy



SAMPLE REPORT



## Family Planning

### Inherited mutations

Inclusion Body Myopathy



Oculocutaneous Albinism



Glycogen Storage Disease



Muscle-Eye-Brain Disease



Sjogren-Larsson Syndrome



Cartilage-hair Hypoplasia



Duchenne Muscular Atrophy



Maple Syrup Urine Disease



Nijmegen Breakage Syndrome



Smith-Lemli-Opitz Syndrome



Zellweger Syndrome Spectrum



SAMPLE REPORT



## Family Planning

### Inherited mutations

Familial Mediterranean Fever



Metachromatic Leukodystrophy



Primary Carnitine Deficiency



Alpha-1 Antitrypsin Deficiency



Congenital Adrenal Hyperplasia



Costeff Optic Atrophy Syndrome



Neuronal Ceroid Lipofuscinosis



Hereditary Fructose Intolerance



Pseudocholinesterase Deficiency



X-linked Juvenile Retinoschisis



Ataxia with Vitamin E Deficiency



SAMPLE REPORT



## Family Planning

### Inherited mutations

Trifunctional Protein Deficiency



D-bifunctional Protein Deficiency



Polyglandular Autoimmune Syndrome



Beta Chain-Related Hemoglobinopathy



Autosomal Recessive

Hypophosphatasia



Congenital Disorder of

Glycosylation



Rhizomelic Chondrodysplasia

Punctata



Steroid-resistant Nephrotic

Syndrome



Combined Pituitary Hormone

Deficiency



SAMPLE REPORT



## Family Planning

### Inherited mutations

Muscular dystrophy  
dystroglycanopathy



Autosomal Recessive Muscular  
dystrophy



Nonsyndromic Hearing Loss and  
Deafness



Recessive Multiple Epiphyseal  
Dysplasia



Herlitz Junctional Epidermolysis  
Bullosa



Carnitine Palmitoyltransferase  
Deficiency



Dihydrolipoamide Dehydrogenase  
Deficiency



SAMPLE REPORT



## Family Planning

### Inherited mutations

HFE-associated Hereditary  
Hemochromatosis



Dihydropyrimidine Dehydrogenase  
Deficiency



Glucose-6-phosphate Dehydrogenase  
Deficiency



Autosomal Recessive Polycystic  
Kidney Disease



Short Chain Acyl-CoA Dehydrogenase  
Deficiency



Medium Chain Acyl-CoA Dehydrogenase  
Deficiency



Sulfate Transporter-related  
Osteochondrodysplasia



SAMPLE REPORT



## Family Planning

### Inherited mutations

Very Long Chain Acyl-CoA  
Dehydrogenase Deficiency



Beta-sarcoglycanopathy (Limb-girdle  
muscular dystrophy)



Hexosaminidase A Deficiency  
(Including Tay-Sachs Disease)



Megalencephalic Leukoencephalopathy  
with Subcortical Cysts



Autosomal Recessive Spastic  
Ataxia of Charlevoix-Saguenay  
(ARSACS)



SAMPLE REPORT



## Family Planning

### Inherited mutations

#### Krabbe Disease



#### Explanation:

Krabbe Disease (also known as globoid cell leukodystrophy) is a progressive neurological condition. It is caused by an enzyme called galactosylceramidase being in limited supply (deficient). This enzyme deficit inhibits the formation and maintenance of myelin, the protective sheath that surrounds particular nerve cells and allows for speedy transmission of nerve impulses. Krabbe Disease is one of a series of illnesses known as leukodystrophies that are caused by myelin degeneration (demyelination). Without this protective layer, brain cells die and the body's nerves become dysfunctional. Additionally, this condition is defined by the presence of globoid cells, which are globe-shaped cells with more than one nucleus. The infantile version of this disease affects 85 to 90% of people with it and manifests itself during the first few months of life. Infants experience irritability, muscle weakness, unexplained fever, deafness, blindness, seizures, and a delay in their mental and physical development. Typically, death occurs before the age of two, frequently as a result of respiratory insufficiency. The late onset variant of affects approximately 10% to 15% of patients with the condition and can manifest itself at any age between six months and fifty years. These individuals gradually lose their vision, experience difficulties walking, develop tight muscles, and experience mental impairment.



**Impact:**

Krabbe Disease is classified as a Very High Impact Disease, meaning that it has a major impact on a child's life expectancy during the first five years of life. Individuals who contract the infantile version of the disease typically die before reaching the age of two. Transfusion of cord blood stem cells prior to the onset of symptoms enables affected newborns to live longer. Individuals with late-onset Krabbe Disease often live an additional two to seven years following the onset of symptoms. Individuals exhibit a wide range of neurological symptoms and progression rates.

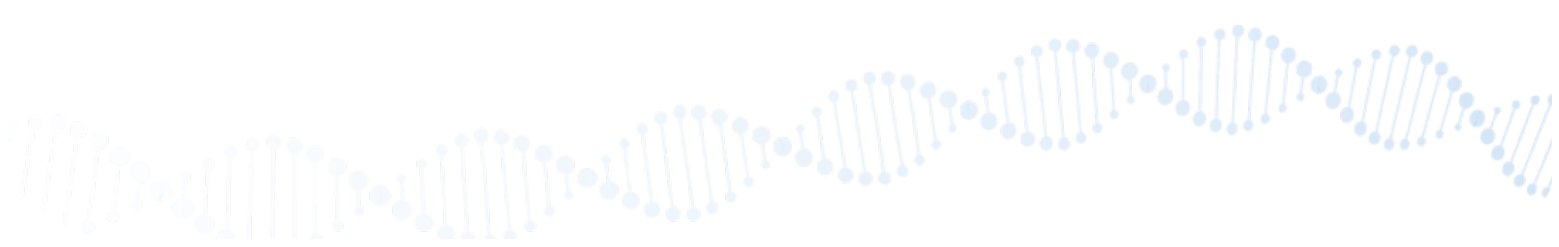
**Treatment:**

There is no cure for Krabbe Disease. Results of a very small clinical trial of children with infantile Krabbe Disease found that children who received umbilical cord blood stem cells from unrelated donors prior to symptom onset developed with little neurological impairment. Bone marrow transplantation may help some people. Generally, treatment for the disorder is symptomatic and supportive. Physical therapy may help maintain or increase muscle tone and circulation.

**Detected Genes:**

GALC

SAMPLE REPORT



## Family Planning

### Inherited mutations

#### Phenylketonuria



#### Explanation:

Inadequate phenylalanine hydroxylase (PAH) results in sensitivity to the necessary amino acid phenylalanine and a variety of diseases. The risk of developing an adverse event changes according to the degree of PAH Deficiency. Without adequate treatment, the majority of people with severe PAH Deficiency, also known as Classic Phenylketonuria (PKU), have severe and irreversible intellectual impairment. Without therapy, affected individuals on an unlimited diet with phenylalanine levels above normal but less than 1200 mol/L (20 mg/dL) are at a significantly lower risk of impaired cognitive development.

#### Impact:

Phenylketonuria or Phenylalanine Hydroxylase Deficiency is classified as a High Impact Disease because it has a substantial impact on life expectancy and quality of life. Individuals with Classic PKU who receive timely and consistent therapy can live a normal life with normal intelligence and lifespan. If treatment is delayed, persons with the more severe version of the illness may suffer irreversible and significant brain damage. Individuals with non-PKU HPA, the mildest form of phenylalanine hydroxylase insufficiency, have a favorable prognosis, which means they can lead a normal life without medication.

## Treatment:

Phenylalanine Hydroxylase Deficiency is a High Influence Disease due to its significant impact on life expectancy and quality of life. Individuals with Classic PKU can live a normal life with normal IQ and longevity provided they receive timely and regular therapy. Patients with the most severe form of the sickness may suffer irreparable and serious brain damage if treatment is delayed. Non-PKU HPA patients, the mildest form of phenylalanine hydroxylase insufficiency, have a fair prognosis, meaning they can live a normal life without medication. Inadequate phenylalanine hydroxylase (PAH) results in phenylalanine sensitivity and a range of illnesses. The chance of experiencing an adverse event varies with the degree of PAH Deficiency. Without appropriate therapy, the majority of patients with severe PAH Deficiency, also called Classic Phenylketonuria (PKU), suffer from severe and irreversible intellectual impairment. Without therapy, affected persons on an unlimited diet with phenylalanine levels greater than normal but less than 1200 mol/L (20 mg/dL) have a considerably decreased risk of cognitive impairment. Classic PKU patients should begin eating a low-protein diet and using a phenylalanine-free medical formula as soon as feasible after birth. Individuals with plasma Phenylalanine concentrations greater than 600 mol/L are treated for Non-classic Hyperalaninemia (HPA) at the majority of centers. It is controversial whether individuals with persistently low plasma Phenylalanine concentrations of less than 600 mol/L (10 mg/dL) require nutritional therapy. Neuropsychiatric testing, in conjunction with referral to developmental services, may be used to uncover learning deficits in afflicted individuals. Individuals who are deficient in any kind of phenylalanine hydroxylase should avoid aspartame, an artificial sweetener that includes phenylalanine.

SAMPLE REPORT

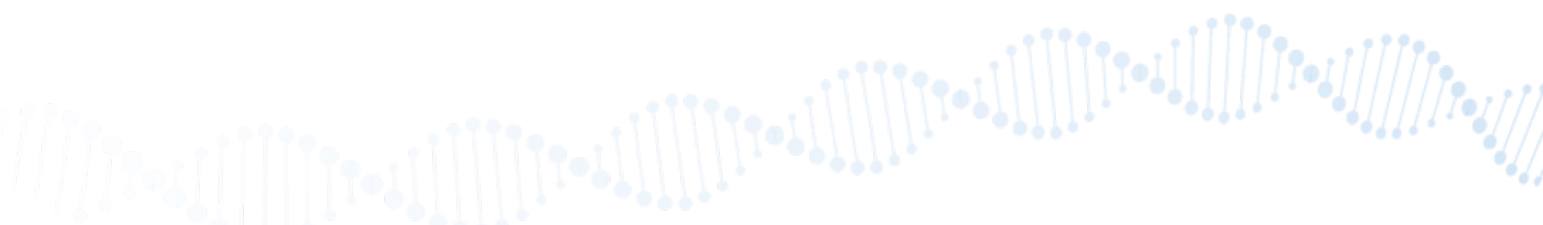




**Detected Genes:**

PAH, PTS, GCH1, QDPR, PCBD1

**SAMPLE REPORT**



## Family Planning

### Inherited mutations

#### Familial Mediterranean Fever



#### Explanation:

Familial Mediterranean Fever (FMF) is a genetic illness marked by repeated bouts of abdominal, chest, or joint inflammation. These episodes are frequently accompanied by a fever and, on rare occasions, a rash or a headache. At times, inflammation may manifest itself in other areas of the body, including the heart; the membrane covering the brain and spinal cord; and, in males, the testicles. Around half of those affected experience modest pre-attack symptoms referred to as a prodrome. Prodromal symptoms include mildly unpleasant sensations in the location that will eventually become inflamed, as well as more widespread feelings of pain. The first episode of disease in FMF often happens during childhood or adolescence around the age of 20, however it can occur much later in life. Episodes often last between 12 and 72 hours and vary in severity. The interval between attacks varies as well, ranging from days to years. During these times, affected individuals typically exhibit no signs or symptoms of the disease. However, in the absence of medication to help prevent attacks and consequences, a buildup of protein deposits (amyloidosis) in the body's organs and tissues, particularly the kidneys, may occur, eventually resulting in renal failure.

#### Impact:

Familial Mediterranean Fever is a High Impact Disease, meaning that it has a considerable impact on life expectancy and quality of life. Individuals with the illness can live a normal lifespan without experiencing any symptoms if treated early and consistently. When a patient develops kidney disease, the ailment

becomes potentially lethal only if left untreated or if treatment fails.

### Treatment:

Although there is no cure for FMF, there are effective therapies available. Individualized therapy are directed at the specific symptoms that each individual exhibits. The United States Food and Drug Administration (FDA) approved Ilaris (canakinumab) for the treatment of FMF in 2016. Numerous patients are treated with colchicine, a complicated chemical that lowers inflammation. The majority of patients who use the medicine have significant improvement in the duration and frequency of episodes. Colchicine is also efficient at preventing amyloid (protein deposits) buildup in the kidneys. Colchicine, on the other hand, demands stringent daily adherence and does not treat an episode once it has begun. Individuals experiencing a febrile (feverish) or inflammatory episode may be treated with nonsteroidal anti-inflammatory medicines (NSAIDs) and analgesics. Additionally, NSAIDs are used to alleviate joint and muscle pain in patients who do not react to colchicine.

### Detected Genes:

MEFV

SAMPLE REPORT



# Health risks

**SAMPLE REPORT**



## Health risks

### Cancer Risks

Lymphoma



Melanoma



Carcinoid



Leukaemia



Meningioma



Lung Cancer



Brain Cancer



Liver Cancer



Neurofibroma



Osteosarcoma



Wilms Tumour



SAMPLE REPORT







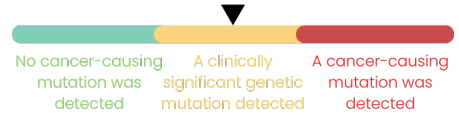
## Health risks

### Cancer Risks

Breast Cancer



Kidney Cancer



Neuroblastoma



Paraganglioma



Bladder Cancer



Chondrosarcoma



Overian Cancer



Retinoblastoma



Stomach Cancer



Thyroid Cancer



Uterine Cancer



SAMPLE REPORT

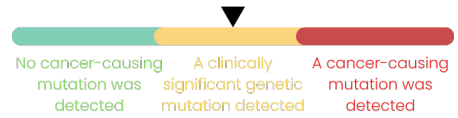




## Health risks

### Cancer Risks

Uveal Melanoma



Prostate Cancer



Multiple Myeloma



Pheochromocytoma



Rhabdomyosarcoma



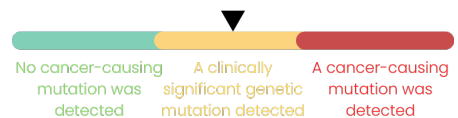
Colorectal Cancer



Esophageal Cancer



Pancreatic Cancer



Pituitary Adenoma



Parathyroid Cancer



Skin Basal Cell Cancer



SAMPLE REPORT



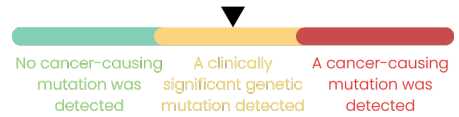
## Health risks

### Cancer Risks

Skin Squamous Cell Cancer



Fanconi Anemia Related Cancers



Gastro-Intestinal Stromal Tumour



**SAMPLE REPORT**





## Health risks

### Brain Health Risks

Autism



Schizophrenia



Bipolar Disorder



Cluster Headache



Major Depression



Lewy Body Dementia



Alzheimer's Disease



Parkinson's Disease



Frontotemporal Dementia



Attention Deficit Hyperactivity Disorder (ADHD)



SAMPLE REPORT





# Health risks

## Other Health Risks

Gout



Asthma



Glaucoma



Vitiligo



Allergies



Psoriasis



Tooth Decay



Osteoporosis



Endometriosis



Kidney Stones



Duodenal Ulcer



SAMPLE REPORT





## Health risks

### Other Health Risks

Hypothyroidism



Osteoarthritis



Sitosterolemia



Alopecia Areata



Crohn's Disease



Noonan Syndrome



Anxiety Disorder



Brugada Syndrome



Long QT Syndrome



Male Infertility



Opioid Addiction



SAMPLE REPORT





## Health risks

### Other Health Risks

Allergic Rhinitis



Atopic Dermatitis



Gallstone Disease



Short QT Syndrome



Ulcerative Colitis



Atrial Fibrillation



Psoriatic Arthritis



Deep Vein Thrombosis



Hyperhomocysteinemia



Hypertriglyceridemia



Rheumatoid Arthritis



SAMPLE REPORT





## Health risks

### Other Health Risks

Androgenetic Alopecia



Chronic Periodontitis



Ankylosing Spondylitis



Syndromic Hearing Loss



Childhood Ear Infection



Orthostatic Hypotension



Influenza Susceptibility



Selective IgA deficiency



Abdominal Aortic Aneurysm



Inflammatory Skin Disease



Peripheral Artery Disease



SAMPLE REPORT







## Health risks

### Other Health Risks

Polycystic Ovary Syndrome



Non-Syndromic Hearing Loss



Dilated Cardiomyopathy (DCM)



Irritable Bowel Syndrome (IBS)



Insulin Resistance and Response



Lumbar Degenerative Disc Disease



Temporomandibular Joint Disorder



Early Onset Myocardial Infarction



Hypertrophic Cardiomyopathy (HCM)



Idiopathic Pulmonary Fibrosis (IPF)



Age-Related Macular Degeneration (AMD)



SAMPLE REPORT



## Health risks

### Other Health Risks

Thoracic Aortic Aneurysm and  
Dissection



High-Density Lipoprotein  
Cholesterol (HDL)



Chronic Obstructive Pulmonary  
Disease (COPD)



Arrhythmogenic Right Ventricular  
Cardiomyopathy (ARVC)



Catecholaminergic Polymorphic  
Ventricular Tachycardia (CPVT)



SAMPLE REPORT





# Health risks

## Common Health Risks

Stroke



Obesity



Migraine



Hypertension



Heart Disease



Type 2 Diabetes



High Cholesterol



Familial Hypercholesterolemia



Non-Alcoholic Fatty Liver Disease



SAMPLE REPORT



## Health risks

### Cancer Risks

#### Lymphoma



#### Explanation:

Lymphoma is a cancer that starts in cells that are part of the body's immune system when abnormal white blood cells grow. Common symptoms include unexplained fever, swelling of one or more lymph glands such as in the neck or armpits, swollen abdomen, or night sweats.

#### Recommendations:

There is no sure way to prevent lymphoma. Most people have no risk factors that can be changed, so there is no way to protect against these lymphomas. However, there are some things you can do that might lower your risk, such as limiting your risk of certain infections and doing what you can to maintain a healthy immune system.

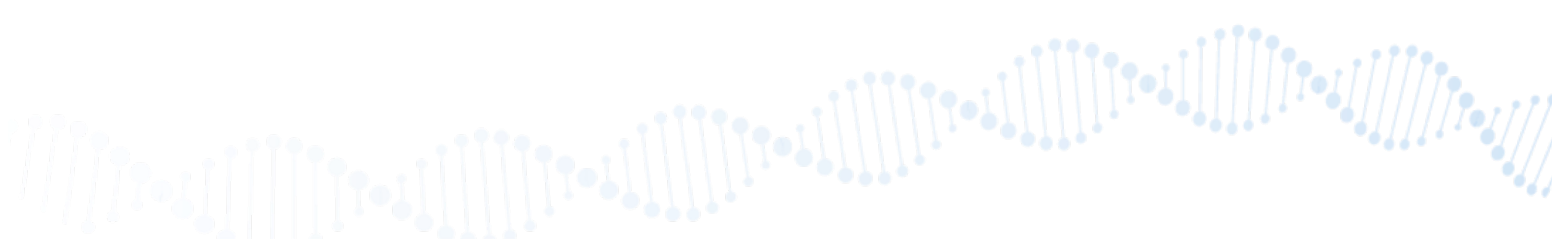
#### Fact:

Lymphoma symptoms can be overlooked because they can be similar to less serious illnesses, such as the flu.

#### Detected Genes:

ALK, REL, BCL2, CD68, NPM1, BCL7A, CDKN2A

SAMPLE REPORT



## Health risks

### Cancer Risks

#### Lung Cancer



#### Explanation:

Lung cancer begins in the lungs, two spongy organs in your chest that take in oxygen when you inhale and release carbon dioxide. Signs and symptoms of lung cancer may include a new cough that doesn't go away, coughing up blood (even a tiny amount), Shortness of breath, or hoarseness.

#### Recommendations:

You can reduce your risk if you;

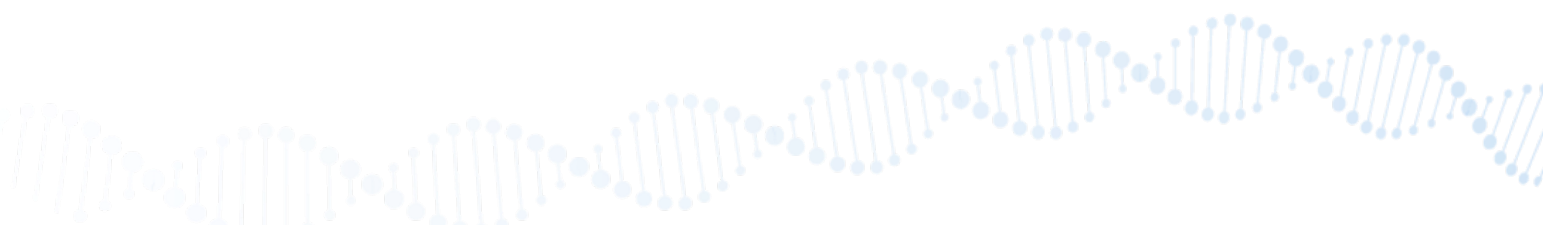
- 1) Avoid smoking and second-hand smoke
- 2) Test your home for radon
- 3) Avoid carcinogens at work
- 4) Exercise and eat a healthy diet full of fruits and vegetables

#### Fact:

Lung cancer is the leading cancer killer of both men and women in America. 81% of those living with lung cancer are over the age of 60

#### Detected Genes:

ALK, NF1, BRAF, EGFR, KRAS, CDKN2A, MAP2K1



## Health risks

### Cancer Risks

#### Brain Cancer



#### Explanation:

Brain cancer occurs when normal brain cells change into abnormal cells, grow uncontrollably, and invade the surrounding tissue.

A brain tumor's first signs and symptoms may be severe headaches and seizures.

#### Recommendations:

Aging and individuals with current or previous cancers increase the risk of developing brain cancer.

You can reduce your risk of getting it by;

- 1) Do regular check-ups
- 2) Avoid or reduce exposure to toxins at work by wearing a mask
- 3) Minimize exposure to ionizing radiation at work by wearing protective gear
- 4) Get regular exercise and eat a nutritious and balanced diet
- 5) Avoid or quit smoking

#### Fact:

The median age at diagnosis for a primary brain tumor is 61 years

The average survival rate for all primary brain tumor patients is 75.7%

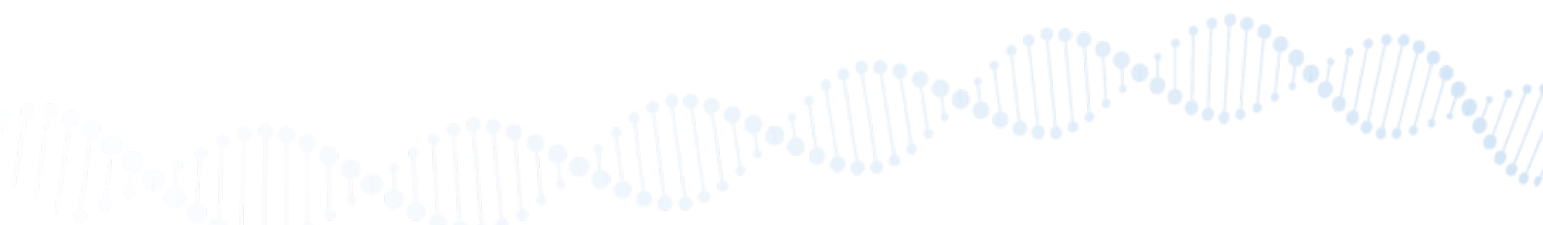
SAMPLE REPORT



**Detected Genes:**

ALK, APC, NF1, NF2, VHL, MEN1, MSH2, MSH6, PMS2, POT1, PTEN, SUFU, TP53, TSC1, TSC2, EPCAM, LZTR1, PTCH1, CDKN2A, DICER1, PRKARIA, SMARCA4, SMARCB1

**SAMPLE REPORT**



## Health risks

### Cancer Risks

#### Neuroblastoma



#### Explanation:

Neuroblastoma is cancer that develops from immature nerve cells most commonly found around the adrenal glands. Neuroblastoma in the abdomen (the most common form) may cause signs and symptoms such as a mass under the skin that isn't tender when touched and changes in bowel habits, such as diarrhea or constipation.

#### Recommendations:

There are no known ways to prevent most cancers in children. So it's better to visit your doctor for regular check-ups. The risk of many adult cancers can be reduced with specific lifestyle changes (such as staying at a healthy weight or quitting smoking).

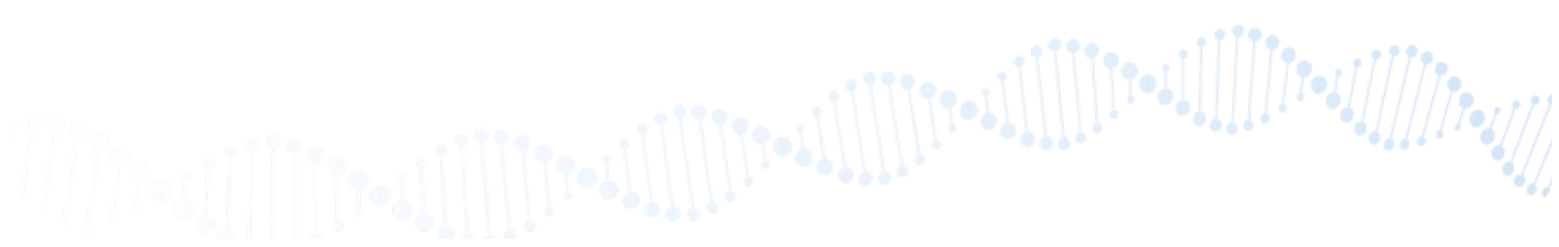
#### Fact:

Neuroblastoma most commonly affects children age 5 or younger; it may rarely occur in older children.

#### Detected Genes:

ALK, CHD5, NBAS, NBL1, CASP8

SAMPLE REPORT





## Health risks

### Cancer Risks

#### Colorectal Cancer



#### Explanation:

Colorectal cancer develops in the colon, the longest part of the large intestine, and the rectum, the last several inches of the large intestine before the anus.

Symptoms include; diarrhea or constipation that lasts for more than a few days, rectal bleeding with bright red blood, blood in the stool (which might make the stool look dark brown or black), cramping, or abdominal (belly) pain or unintended weight loss.

#### Recommendations:

Ways to help protect your colorectal health;

- 1) Get screened for colorectal cancer. Screenings are tests that look for cancer before signs and symptoms develop. The American Cancer Society recommends testing starting at age 45. Talk to your healthcare provider about when you should begin screening and which tests might be proper for you
- 2) Eat lots of vegetables, fruits, and whole grains and eat less red meat (beef, pork, or lamb) and processed meats (hot dogs and some luncheon meats)
- 3) Get regular exercise and take control of your weight
- 4) Avoid smoking and alcohol

#### Fact:

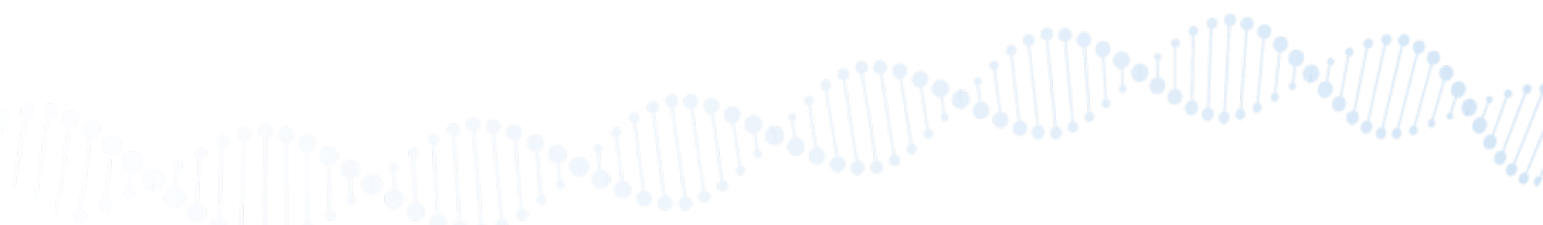
Colorectal cancer is one of the more common cancers in the US. About 1 in 25 people in the United States will develop colon or rectal cancer during their lifetime.



**Detected Genes:**

APC, CDH1, MSH2, MSH3, MSH6, PMS2, POLE, PTEN, TP53, AXIN2, CHEK2, EPCAM, GREM1,  
MUTYH, SMAD4, STK11, BMPRIA

**SAMPLE REPORT**



## Health risks

### Brain Health Risks

#### Autism



#### Explanation:

Autism is a complex, lifelong developmental disability that typically appears during early childhood and can impact a person's social skills, communication, relationships, and self-regulation.

#### Recommendations:

You can do the following to prevent Autism.

- 1) Reduce exposure to Toxins. One Harvard study found that children born to mothers exposed to high pollution levels had twice the risk of Autism
- 2) Maintain a nutritious diet and stay in good health
- 3) Regular check-ups may be necessary to follow up children's development

#### Detected Genes:

ADNP, CHD2, CHD7, CHD8, NSD1, POGZ, PTEN, RAI1, SMC3, TBRI, TCF4, TSC1, TSC2, ZEB2, FOXG1, FOXP1, GRIA3, HDAC8, MECP2, MED12, MEF2C, NIPBL, NRXN1, RAD21, SCN2A, SMC1A, UBE3A, UPF3B, ARID1B, CREBBP, DYRK1A, GRIN2B, IQSEC2, NLGN4X, PTCHD1, SHANK2, SHANK3, SLC6A8, SLC9A6, ALDH1A3, ANKRD11, CACNA1C, CNTNAP2, SYNGAP1

SAMPLE REPORT



## Health risks

### Brain Health Risks

#### Schizophrenia



#### Explanation:

Schizophrenia (Multiple personality disorder) is a severe mental disorder in which people interpret reality abnormally. It may result in hallucinations, delusions, and extremely disordered thinking and behavior that impairs daily functioning.

#### Recommendations:

There's no sure way to prevent schizophrenia, but consulting your doctor and sticking with the treatment plan can help prevent relapses or worsening of symptoms.

Some ways that might increase the risk of schizophrenia are:

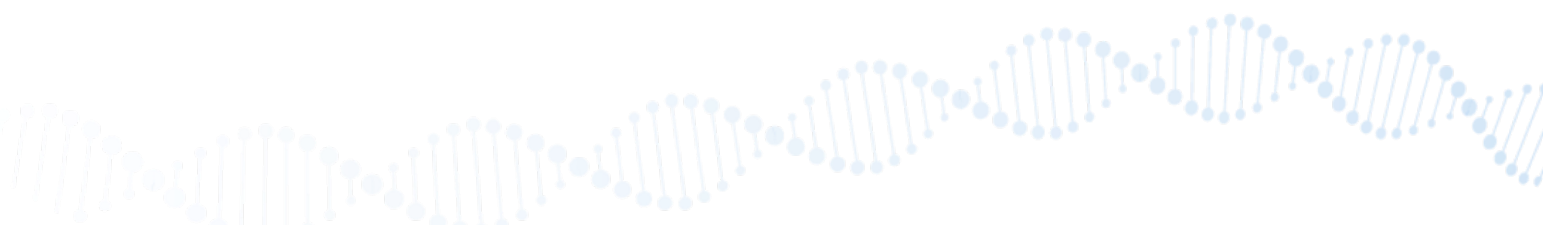
**Harmful childhood experiences:** Brain injury, sexual abuse, and traumatic early experiences may raise the risk.

**Pregnancy complications:** Infection, stress, and complications during pregnancy such as preeclampsia may raise the chance of schizophrenia,

#### Detected Genes:

CA8, DCC, DST, DYM, EMB, EPO, EYS, FER, FYN, HFE, KIT, LEP, NGF, SP4, SRR, TEK, AGO4, AIG1, AKT3, ANO6, ASPG, BAK1, BRD1, CCNH, CD53, CHD2, COG6, COMT, CUL3, DDB2, DGKI, DLG2, DPYD, DRD2, DTNB, EMX1, EPC2, ETF1, FHIT, FUT8, FUT9, GPC6, HAT1, LGSN, LIPC, LRP4, MAP2, MAU2, MSI2, NOM1, NOS1, PAK2, PCLO, PEPD, PSD3, QPCT, RBKS, RGS6, RIT1, RTN1, SFPQ, SGCD, SOX5, STK4, STUM, TCF4, TLE3, TNKS, TNXB, UFM1, VRK2, XYLB, ZEB2, ABCB1, ADCY1, AKAP6, ALMS1, APBA1, ASAP1, BANK1, BICC1, CAAP1, CADM1, CALN1,

CAPN2, CDH11, CLCN3, CNOT1, CNTN2, CPEB1, CSMD1, CWC22, DCPIB, DOCK1, EFHD1, EFR3B, EPHX2, ERCC4, EXOC4, FOXO3, FOXP1, FRMD5, GCFC2, GNAT1, GPM6A, GRID1, HECW2, HIP1R, HLA-B, HTR3B, ITIH4, ITPR3, JKAMP, KALRN, KCNG2, KCNJ3, KCNN3, KDM4C, KIF5B, LCORL, LEMD2, LIMA1, LIMK2, LUZP2, MAGI2, MEF2C, MMP16, MTUS2, NDST3, NEGRI, NRXN3, NT5C2, NTRK3, OPCML, OPRD1, OTOL1, PBRM1, PCDH9, PCNX1, PDE4B, PLCH2, PLCL1, PDPF, PRKCB, PRKD1, PRKG1, PTBP2, PTGIS, PTPRD, PTPRF, PTPRK, RASA3, RBM26, RBMS3, RC3H1, RIMS1, ROBO1, RTKN2, RUFY1, RUSC2, SATB2, SCN9A, SHMT2, SKAP1, SNX19, SRPK2, STAG1, STK31, TACC2, TAOK2, TENM2, THOC7, TMTTC1, TTC12, YPEL1, ZFPM2, ADGRV1, AKAIN1, ATP2B2, BCL11A, BCL11B, BNIP3L, CACNB2, CDC25C, CFAP57, CFAP58, CHRNA2, CHRNA3, CLSTN3, DLGAP2, DUSP26, ELAVL4, FBXO11, FRMD4B, GABBR2, GALNT2, GRIN2A, HS3ST4, IGSF9B, IMMP2L, INSIG1, KIF21B, KLHL29, LHFPL3, LIN28B, LINGO2, MAN2A1, NFATC3, NKAIN2, PCDH15, PCDHA1, POU6F2, PPP3R1, PRDM14, PRRC2A, RHBDL3, RMND5A, RNF180, SCAPER, SEC11A, SHISA6, SLC7A6, SLC9B1, SNAP91, SORCS3, SPECC1, SPHKAP, TBC1D5, TRANK1, VPS13C, ZDHHC2, ZDHHC8, ZNF365, ZNF536, ZNF717, ANKRD27, ATXN7L1, CACNA1C, CACNA1D, CACNA1I, CARM1, DYNC1I2, FAM184A, FAM214A, FTCDNL1, GALNT10, GUCY1A2, HLA-DRA, MTHFD1L, PHACTR3, PLA2G4A, PPP1R3A, PPP2R2B, PPP2R3A, RALGPS1, RANBP3L, SDCCAG8, SEC61A1, SLC17A3, SLC45A1, SLC6A1, SPATS2L, SYNGAP1, TBC1D19, TMEM182, TMEM233, TSNARE1, ZCCHC17, ZDHHC17, ZDHHC20, ZNF385B, ZSCAN31, ADAMTSL3, ARHGAP40, HLA-DQB1, MPHOSPH9, POM121L2, PPARGC1A, PPP1R16B, PSORS1C1, TMEM132D, TMEM178B



## Health risks

### Brain Health Risks

#### Major Depression



#### Explanation:

Depression is a mood disorder that causes a persistent feeling of sadness and loss of interest. It affects how you feel, think and behave and can lead to various emotional and physical problems.

#### Recommendations:

You can do the following to reduce the risk of major depression

- 1) Exercise regularly as it improves mood state. Aim for at least 30 minutes of physical activity most days
- 2) Develop a healthy diet and go to bed at a regular time
- 3) Seek a therapist.

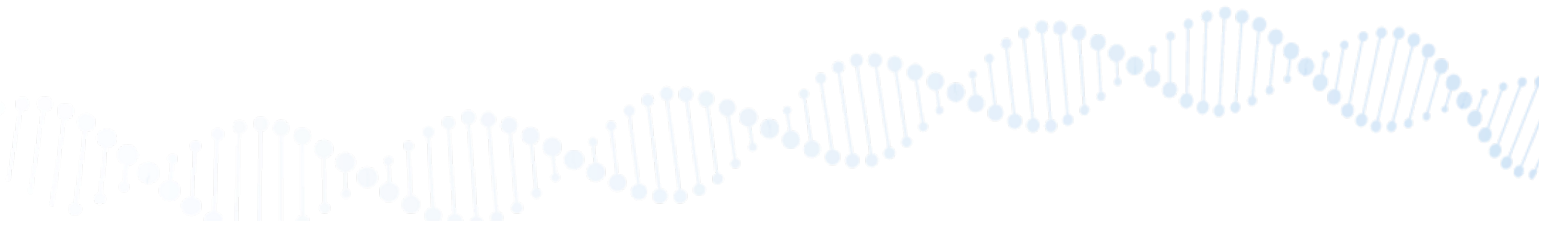
#### Detected Genes:

CFB, CPM, DAP, DCC, DDO, MLN, SP4, ABT1, AQP7, ATG7, CCNH, CDH4, CDH9, CHD7, CRBI, DGKB, DRD2, ENO4, ERC2, FAT1, FHL2, GLO1, GMPR, GRM5, GRM7, KSR2, LHPP, NOS1, OPA1, PAX5, PKLR, PUM3, RERE, SCGN, SIM1, SOX5, SOX6, TCF4, TLR4, TSC2, VRK2, XYLB, ZHX3, ASIC2, ASTN1, ASTN2, ASXL3, CASP4, CCND2, CELF4, CNIH4, CNTLN, CNTN5, CRTAP, DCDC2, DNAH6, ENOX1, ERBB4, ERCC4, FGF12, FNIP2, FSTL5, GNAI3, GNAO1, GRIK3, HLA-B, HTR1A, ITPR2, KMT2A, MAML3, MEF2C, MEIS2, MKLN1, MUC21, NCOA5, NDST4, NEGR1, NUP35, OLFM4, OR2J2, OR5V1, PCDH9, PIPOX, PLCG1, PTPRG, ROBO1, ROBO2, RSRC1, SGIPI, SIRT1, SNX29, SPPL3, SUDS3, SYNE2, SYNPR, TENM2, TMTC1, TUSC1, TYRP1, UNC5C, VPS41, YLPM1, ACTR3B, ADGRL4, ARRDC4, BAIAP2, BRINP3, BTN2A1, CAMTA1, CTNNA3, KCTD15, LARGE1, LYSMD4, MAD1L1, MGAT4C, MS4A13, PARP1, PCMTD1, PHF21B, PLXNC1, PMFBP1, RAB27B, RBFOX1, SEMA6D, SORCS3, ZMYND8, ZNF326, ZNF502, ZNF536, ANKRD27,



ARFGEF2, CCDC170, CNTNAP5, CTTNBP2, DENND1B, FAM120A, PRKARIA, RUNX1T1, SLC6A15, TRAPPC9, TUBGCP6, ZSCAN31, ATP6V1B2, C11orf53, C12orf42, CACNA2D1, ITPRIPL1, KIAA1109, MTRNR2L5, PAFAH1B1, PSORS1C1, SLC25A37, TMEM106B, TMEM161B, LINC00693, LIN28B-AS1

**SAMPLE REPORT**



## Health risks

### Brain Health Risks

#### Attention Deficit Hyperactivity Disorder (ADHD)



#### Explanation:

Attention Deficit Hyperactivity Disorder (ADHD) is a condition that affects people's behavior. Symptoms include inattentiveness, hyperactivity, and impulsiveness.

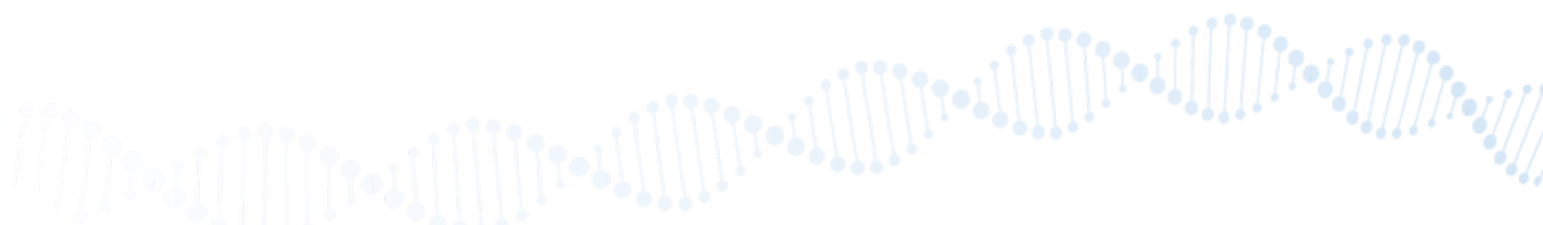
#### Recommendations:

To help reduce your child's risk of ADHD:

- During pregnancy, avoid alcohol, drugs, or smoking.
- Protect your child from smoke or leads.
- Limiting screen time on TV or phones may be beneficial in preventing ADHD.
- ADHD patients might benefit from behavioral therapies such as social skill training and psychotherapies.

#### Detected Genes:

EMP2, GRM5, KIF6, MLIP, SOX5, TPK1, CHMP7, CSMD1, TSHZ2, BCL11A, CSRNP3, FBXL16, PIWIL4, PKD1L3, SEMA6D, SLC9A9, DENND5B, ST3GAL3





## Health risks

### Other Health Risks

#### Glaucoma



#### Explanation:

Glaucoma is a common eye condition where the optic nerve, which connects the eye to the brain, becomes damaged. Symptoms might include blurred vision or seeing rainbow-colored circles around bright lights. Glaucoma can lead to vision loss if it's not diagnosed and treated early.

#### Recommendations:

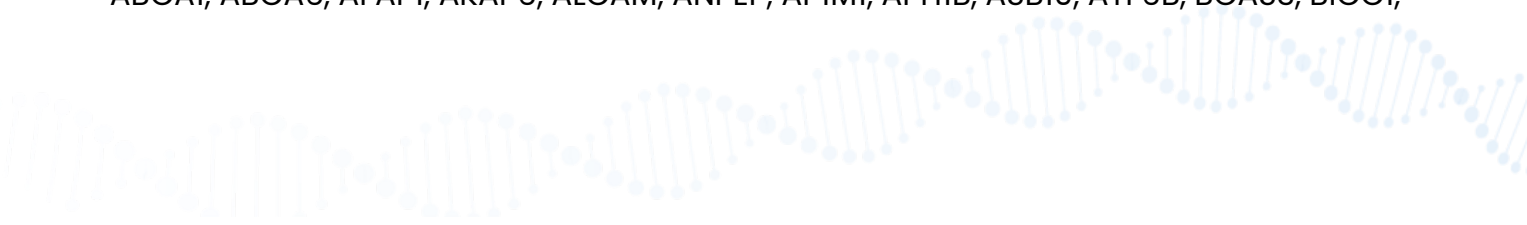
These self-care steps can help you detect glaucoma in its early stages, essential in preventing vision loss or slowing its progress.

- 1) Get regular comprehensive dilated eye examinations. Ask your doctor to recommend the proper screening schedule for you.
- 2) Exercise safely. Regular moderate exercise may help prevent glaucoma by reducing eye pressure.
- 3) Take prescribed eyedrops regularly
- 4) Wear eye protection. Serious eye injuries can lead to glaucoma, so wear eye protection when necessary

#### Detected Genes:

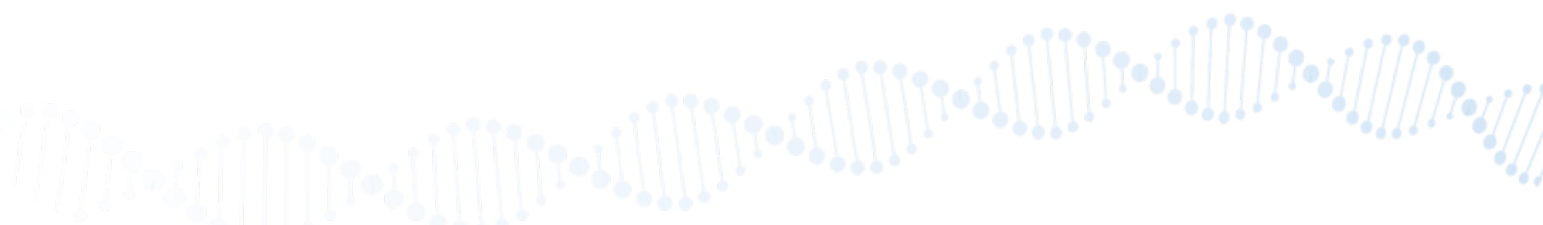
F2, ABO, FYN, LPP, ME3, NSF, NTM, TEK, TES, ABRA, AHRR, ANKH, BBS9, BMP3, BRD3, CAV2, CCL4, DLG2, DPF3, DPP6, DSEL, ELP4, EMCN, ETS1, ETS2, FBNI, FBN2, FEZ2, FLT1, GAS6, GAS7, GMDS, GNB3, GPD2, HAT1, IBTK, INSR, KLF5, KLF9, LMO7, MADD, MGMT, MPP7, MYOF, PKN2, PLD5, RALB, RNLS, SGK3, SMG6, SOS2, SPII, SYN3, TCF4, TFEC, THRB, TJP2, TLL1, TNS1, WBP4, ABCA1, ABCA6, AFAP1, AKAP6, ALCAM, ANPEP, APIM1, APH1B, ASB10, ATF6B, BCAS3, BICC1,

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CADM2, CDH11, CDH13, CENPW, CHEK2, CIITA, CLIC5, CPXM1, EMID1, EPDR1, EXOC2, FANCA, FMNL2, FOLH1, FOXO1, FOXPI, GLIS3, HDLBP, HYDIN, ITIH1, KALRN, KCNQ5, KIF11, LAMA2, LMX1B, LOXL1, LTBP1, LTBP2, MECOM, MXRA8, MYO5B, NEDD4, NPAS3, NRIH3, ODF2L, OR5J2, OR8H3, OR9G1, PCBP3, PCSK5, PDE7B, PKHD1, PLCH2, PRTN3, PTGDS, PTPRJ, PTPRR, RUNX2, SH2B3, SOX11, SPC24, STAG1, STOX2, SYNJ2, TGFB2, THADA, THBS4, TIAM1, TMCO1, TRAM2, TUBB3, ZMAT4, AKAP13, AMOTL2, ANAPC1, ANGPT2, ANKRD1, ANTXR1, ANTXR2, ARID5B, CAMTA2, CAPZA1, CDRT15, COL4A1, COL5A1, COL6A1, COL6A3, COL8A2, CYP1B1, EFEMP1, ELOVL5, FBXO32, FERMT2, FNDC3B, FRMPD2, GLT8D2, GPR158, KCTD15, LRRC4C, MIPOL1, NCKAP5, NEURL1, NPLOC4, OR4A47, OR4C15, OR4C46, PARD3B, PCMTD1, PKD1L2, POU6F2, PRKAG2, PRSS23, PRSS56, RBFOX1, RCBTB1, SEMA3C, SEMA3E, SEMA3F, SPTBN1, TANGO2, TCF7L2, THSD7A, TRIOBP, TXNRD2, UBIAD1, VPREB1, VPS13C, ZBTB38, ZNF140, ZNF366, ZNF516, ADAMTS2, ADAMTS6, ADAMTS8, ALDH3A1, ATP13A2, C4orf36, C8orf48, COL10A1, COL24A1, COL26A1, CTTNBP2, DSCAML1, FAM102A, KREMEN1, PLEKHA7, PPP2R3A, PRTFDC1, RALGPS1, RANBP3L, TBC1D21, TMEM119, TMEM181, TRIM49B, TSPAN10, TSPAN18, ZDHHC11, ZNF280D, ZSCAN12, ADAMTS17, ADAMTS18, ADAMTSL1, ARHGAP20, ARHGEF12, C10orf53, C14orf39, C9orf135, GRM7-AS3, MAPK8IP3, TP53INP1, CDKN2B-AS1, LIN28B-AS1

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## Health risks

### Other Health Risks

#### Allergies



#### Explanation:

Allergies are reactions caused by the immune system as it responds to environmental substances. They may occur in response to different materials (called allergens), such as food, pollen, dust mites, animals, insect stings, or medicines. Common allergy symptoms include difficulty breathing, changes in blood pressure, stuffy nose, or digestive issues.

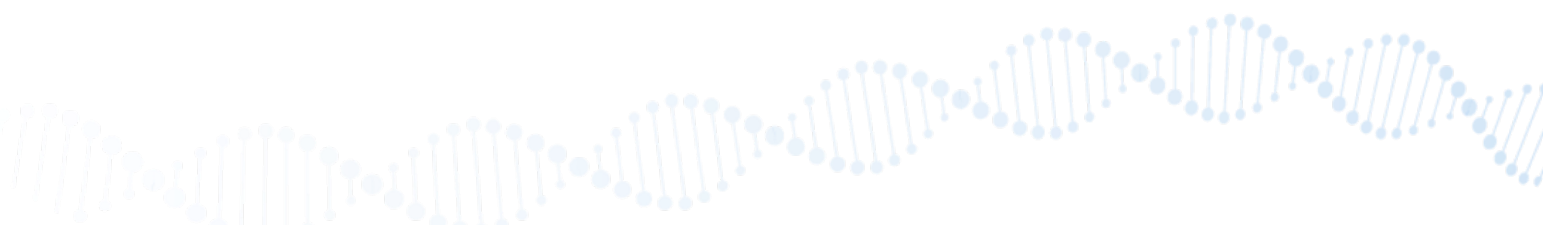
#### Recommendations:

Preventing allergic reactions depends on the type of allergy you have. General measures include the following:

- 1) Avoid known triggers. For instance, if you're allergic to pollen, stay inside with windows and doors closed when pollen is high if you're allergic to dust mites, dust, and vacuum and wash the bedding often.
- 2) Keep a diary. When identifying what causes or worsens your allergic symptoms, track your activities and what you eat, when symptoms occur, and what seems to help. This may help you and your doctor identify triggers.
- 3) Consult a doctor if you have a severe allergy symptom

#### Detected Genes:

LPP, BAK1, EMSY, ETS1, IL33, IL4R, MICA, PHYH, TLR1, TTC6, GSDMB, HLA-A, IL21R, IL2RA, NPAS3, PEX14, PLCL1, SMAD3, STAT6, WDR36, CEP120, IL1RL2, NFATC2, RBFOX3, CLEC16A, HLA-DQA2, HLA-DQB1



## Health risks

### Other Health Risks

#### Crohn's Disease



#### Explanation:

Crohn's disease causes inflammation of your digestive tract, leading to abdominal pain, severe diarrhea, fatigue, weight loss, and malnutrition.

#### Recommendations:

There's no way to prevent Crohn's disease. These healthy lifestyle changes can ease symptoms and reduce flare-ups:

- 1) Stop smoking.
- 2) Eat a healthy, low-fat diet.
- 3) Exercise regularly.
- 4) Manage stress.

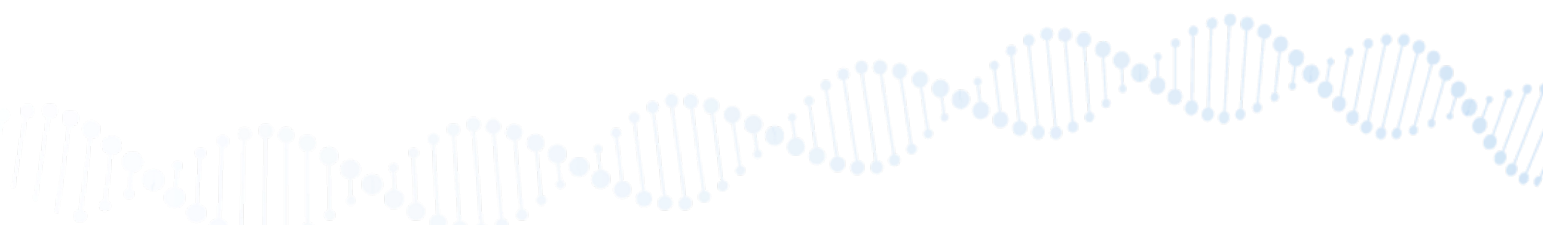
#### Detected Genes:

ADO, BSN, CD6, DAP, LPP, MLN, ACO2, CLN3, CUL1, CUL2, EMSY, GCKR, IFNG, IL10, IPMK, IRF4, IRF8, IRGM, JAK2, LTBR, MYRF, NOD2, PER3, RBPJ, RFT1, RIT1, TAB2, TYK2, ADCY3, ATXN2, BANK1, BTBD8, CCND3, CD244, CDH13, CPEB4, DUSP5, EPHB4, ERAP2, GPR35, GPR65, HGFAC, HINT1, HLA-C, IKZF3, IL1R2, IL23R, IL2RA, IMPG2, ITGA4, ITLN1, JAZF1, KIF3B, KPNA7, LITAF, LRRK2, MAGI1, MUC19, PLCL1, PRDM1, PTK2B, PTPN2, PUS10, RSPO3, SBNO2, SKAP2, SMAD3, SOCS1, SP140, STAT4, TAGAP, THADA, TRIB1, TUBD1, UBE3D, ZGPAT, ZMIZ1, AKAP11, CELSR3, DNMT3A, FCGR2A, FCHSD2, ICOSLG, KIF21B, MAP3K8, NDFIP1, NFATC1, NOTCH1, NOTCH4, PHLDB2, PLA2R1, SBSPON, SLAIN2, SLAMF8, SPRED2, TAGLN2, THEMIS, TMBIM1, ZBTB38, ZNF365, ZNF831, ANKRD55, ATG16L1, C3orf84, C7orf33, DENND1B, FAM171B, IL18RAP, PLA2G4A, RNASET2, SLC2A13, SLC43A3, TCERG1L, TNFSF15, TSPAN14,



ZFP36L1, C17orf67, HLA-DQA2, HLA-DQB1, HLA-DRB1, KIAA1109, SLC22A23

**SAMPLE REPORT**



## Health risks

### Other Health Risks

#### Ulcerative Colitis



#### Explanation:

Ulcerative Colitis is a long-term condition where the colon and rectum become inflamed. The main symptoms of ulcerative colitis are recurring diarrhea, which may contain blood, mucus or pus, or tummy pain.

#### Recommendations:

Changes in diet can help reduce symptoms. Some of the recommended dietary changes include the following;

- 1) Avoid carbonated drinking drinks
- 2) Avoid eating high-fiber foods such as popcorn, vegetable skins, and nuts while you have symptoms
- 3) Drink more liquids
- 4) Eat more frequent, smaller meals
- 5) Keep a food diary that identifies foods that cause symptoms. Consult your doctor

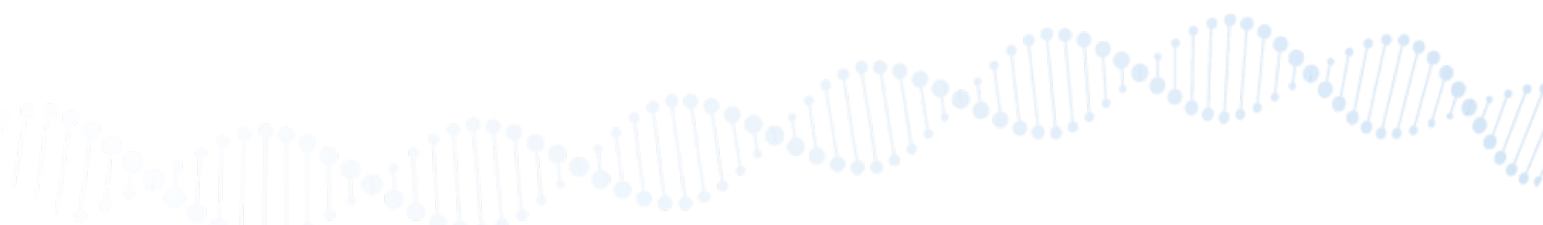
#### Detected Genes:

CD6, CFB, CTH, DAP, DLD, FAP, ABI1, APEH, CD28, COG6, CTIF, CUL2, EMSY, GPD2, IFNG, IL10, IRF5, IRF8, TET2, TNXB, TOM1, CD226, CIITA, CYTH1, EPHB4, ERAP2, GNA12, GPR35, GPR65, HDAC7, HDAC9, HNF4A, IL1R2, IL23R, ITGA4, ITGAL, ITLN1, KPNA7, NFKB1, NR5A2, PLCG2, PLCL1, PRDM1, PTPN2, PUS10, RASEF, SATB2, SMAD3, STAT4, VEGFA, ZFP90, BPIFB4, CAMK2A, CCHCR1, CDKAL1, CELSR3, DNMT3B, ERGIC1, FCGR2A, ICOSLG, KIF21B, NDFIP1, NOTCH1, NOTCH4, SFMBT1, TMBIM1, ZBTB40, ZNF300, ZNF365, ZNF831, C7orf33, DENND1B, HLA-DRA, IL17REL, MFSD13A, RPS6KA4, SLC26A3, SLC2A13, TNFSF15, CACNA2D1, HLA-DQB1,



KIAA1109, SLC39A11

**SAMPLE REPORT**



## Health risks

### Other Health Risks

#### Atrial Fibrillation



#### Explanation:

Atrial fibrillation (called Fib or AF) is the most common type of heart arrhythmia. An arrhythmia is when the heart beats too slowly, too fast, or irregularly.

#### Recommendations:

You can make these basic recommendations;

- 1) Avoid smoking
- 2) Follow a heart-healthy Mediterranean-style diet (high in plant-based foods, fruits and vegetables, and low in saturated fats)
- 3) Stay physically active and keep to an average weight (as indicated on a body-mass index chart).
- 4) You should see your doctor check your cardiac rhythm regularly.

#### Detected Genes:

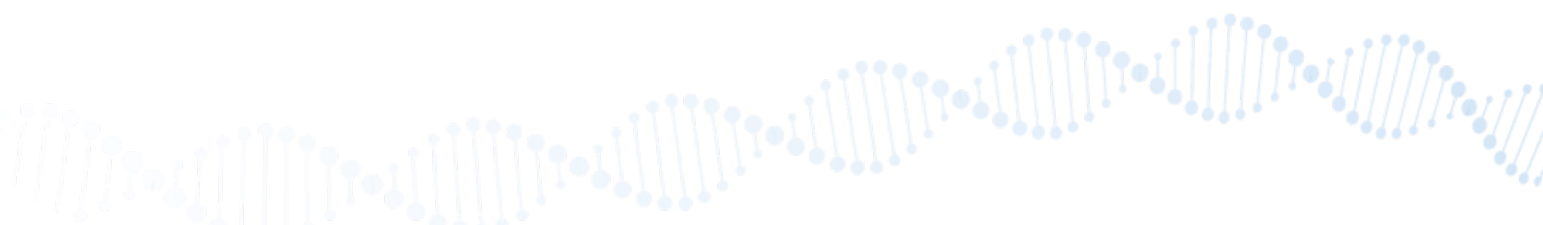
CGA, PGP, SYK, TTN, UST, CAV2, CDK6, CFL2, CUX2, DGKB, FAF1, GNB4, GYPC, HSF2, IL6R, MYH7, NAV2, NEBL, PAK2, PKP2, PTK2, RPS2, SSPN, SUN1, TBX5, THRB, TLE3, USP3, WDRI, WNT3, XPO1, XPO7, ABCC9, AGBL4, AKAP6, ALPK1, ANXA4, BEST3, CAND2, CASQ2, CASZ1, CEP68, CREB5, CUL4A, CYTH1, EPHA3, ERBB4, GATA4, GCOM1, GMCL1, GORAB, GOSR2, HBEGF, HIP1R, HSPG2, IGF1R, KCNA5, KCND3, KCNH2, KCNJ5, KCNN2, KCNN3, KCNQ1, LRIG1, MEX3C, MYOCD, NR3C1, PSMB7, RBM20, REEP1, RPL3L, SCM1, SCN1B, SCN3B, SCN4B, SCN5A, SIRT1, SMAD7, SORL1, SYNE2, TUBA8, UBE4B, WIPF1, WNT8A, ZFHX3, CAMK2D, CDKN1A, CEP85L, CRAMP1, DNAH10, ELOVL6, FBRSL1, FBXO32, FRMD4B, KLHL38, MYO18B, NEURL1, NKX2-5, PHLDA1, PHLDB2, PKD2L2, POLR2A, PPFIA4, SCN10A, XXYLT1,





ZNF462, ABHD17C, PPP2R3A, SLC27A6, SLC35F1, SPATS2L, SYNPO2L, SH3PXD2A, SLC25A26

**SAMPLE REPORT**



## Health risks

### Other Health Risks

#### Hypertriglyceridemia



#### Explanation:

Hypertriglyceridemia refers to an elevated level of triglycerides (a type of lipid) in the bloodstream, a condition that increases the risk of coronary artery disease. Hypertriglyceridemia does not usually present symptoms until the level reaches 1000 to 2000 mg/dL. At this point, the signs and symptoms may include pancreatitis, yellowish depositions of fat on or around the eyelids, back, chest wall, or proximal extremities, and a thin whitish or grey arc around the outer part of the cornea.

#### Recommendations:

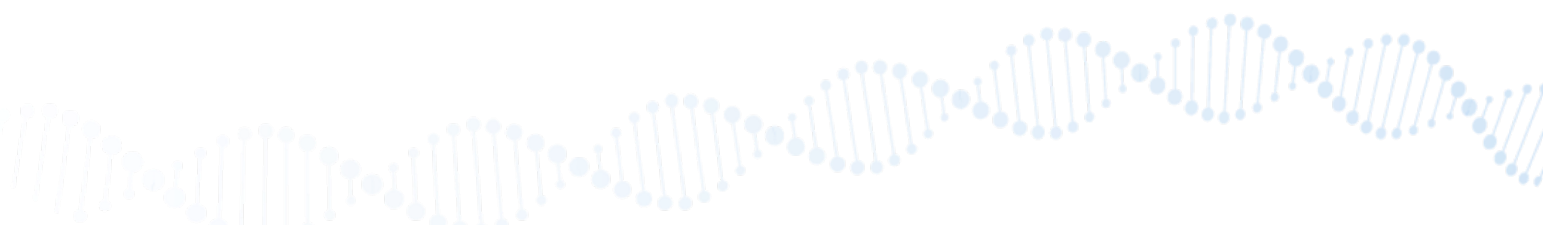
Healthy lifestyle choices are critical:

- 1) Exercise regularly. Regular exercise (30 mins on most days) can lower triglycerides and boost "good" cholesterol.
- 2) Avoid sugar and refined carbohydrates. Simple carbohydrates can increase triglycerides, such as sugar and foods made with white flour or fructose.
- 3) Lose weight. Extra calories are converted to triglycerides and stored as fat.
- 4) Choose healthier fats. Trade saturated fat found in meats for healthier fat found in plants, such as olive and canola oils. Instead of red meat, try fish high in omega-3 fatty acids – such as mackerel or salmon. Avoid trans fats or foods with hydrogenated oils or fats.
- 5) Limit how much alcohol you drink. Alcohol is high in calories and sugar and affects triglycerides. If you have severe hypertriglyceridemia, avoid drinking any alcohol.

**Detected Genes:**

FTO, GAK, GCK, LPA, LPL, AICF, AFF1, AOC1, APOB, BBS4, CETP, CMIP, CTF1, DMC1, DRD2, E2F3, EBF1, EYA1, GAS6, GCKR, GSE1, INSR, LIPC, MAFF, MAU2, MYRF, NAT2, NPC1, OPTC, PEMT, PEPD, PLTP, RMI1, SHBG, SYN2, TET1, UBR1, USP3, WWP2, XKR6, ACACB, APOC2, APOC3, BAZ1B, BCKDK, CAPN3, CEP68, DOCK7, DSTYK, DUSP3, FKBP6, FRMD5, GPR85, HGFAC, HLA-C, ITPR2, MAP1A, MEIS1, NEGR1, NRIH3, PCIF1, PCSK6, PRAG1, PRSS3, RIC8B, RSPO3, SNX13, THADA, THOC1, TIMD4, TRIB1, TYW1B, UHRF1, VEGFA, CCDC93, COBLL1, CYP7A1, DMRTA2, GALNT2, HECTD4, INPP5A, JMJD1C, PDXDC1, R3HDM2, SMNDC1, TRANK1, C5orf67, C8orf58, COL18A1, DSCAML1, PPP2R3A, SLC30A8, SLCO1B1, TNFSF10, TP53BP1, Tmprss11e

**SAMPLE REPORT**



## Health risks

### Other Health Risks

#### Rheumatoid Arthritis



#### Explanation:

Rheumatoid Arthritis is a chronic inflammatory disorder that can affect more than just your joints. The condition can damage various body systems in some people, including the skin, eyes, lungs, heart, and blood vessels.

#### Recommendations:

You can do the following to prevent Rheumatoid Arthritis.

- 1) Avoid smoking
- 2) Limit alcohol
- 3) Minimize bone loss. Include calcium or vitamin D foods or take supplements for bone health
- 4) Improve oral health
- 5) Consume Fish and Fish oil. Fish is rich in nutrients, particularly omega-3 fatty acids and vitamins A and D.
- 6) Maintain a healthy weight and stay active

#### Detected Genes:

BLK, IL2, REL, TEC, AFF3, AIRE, CCR6, CDK6, COG6, DDX6, DPP4, ETS1, GCHI, IRF5, IRF8, JDP2, MTF1, PLD4, TYK2, ANXA3, ARL15, BACH2, CCL21, CD226, CD247, CTLA4, ELMO1, EOMES, FADS2, GRHL2, IL2RA, IL2RB, JAZF1, MECP2, MMEL1, PADI4, PDE2A, PHF19, PODXL, PPIL4, PRKCB, PRKCH, PTPN2, RCAN1, RPP14, RSBN1, RTKN2, SALL3, SFTPD, SH2B3, STAG1, STAT4, TAGAP, TNIP1, TNPO3, TPD52, TRAF1, WDFY4, ARID5B, RAD51B, SMTNL2, SPRED2, VPS37C, ANKRD55, FAM107A, FAM205A, HLA-DRA, TNFAIP3, TNFRSF9, TXNDC11, UBASH3A, CD200R1L, CDK5RAP2, DNASE1L3, HLA-DQB1, HLA-DRB1, KIAA1109, LOC100506023

## Health risks

### Other Health Risks

#### Androgenetic Alopecia



#### Explanation:

Androgenetic Alopecia is a common form of hair loss in men and women. Hair loss signs and symptoms may include Gradual thinning on top of the head, Circular or patchy bald spots, or Patches of scaling that spread over the scalp.

#### Recommendations:

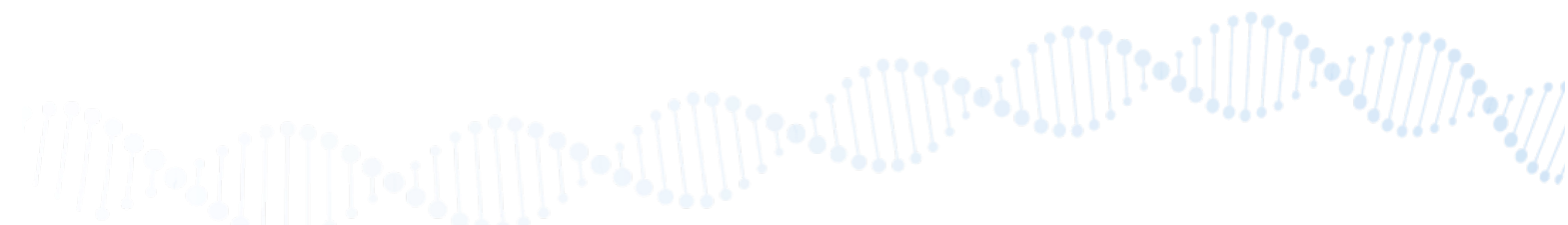
These tips may help you avoid preventable types of hair loss:

- 1) Be gentle with your hair and avoid harsh treatments such as hot rollers, curling irons, hot-oil treatments, and permanents. Limit the tension on hair from styles that use rubber bands.
- 2) Ask your doctor about medications and supplements you take that might cause hair loss.
- 3) Protect your hair from sunlight and other sources of ultraviolet light.
- 4) Avoid smoking. Some studies show an association between smoking and baldness in men.
- 5) If you're being treated with chemotherapy, ask your doctor about a cooling cap. This cap can reduce your risk of losing hair during chemotherapy.

**Detected Genes:**

AR, BBX, XDH, ALX4, BCL2, DKK2, EBF1, EDAR, EHD3, FAR2, HEPH, IRF4, KLF8, MAPT, MTX2, PAX3, RORA, SSPN, SYF2, TCF4, TET2, VAPA, ZHX3, AKAP1, AUTS2, CENPW, EDA2R, EXOC2, FAAH2, FADS2, FOXD2, GIMDI, HAUS7, HDAC4, HDAC9, OPHNI, PDGFA, PEX14, PRDM1, PRDM8, PRKD1, RSPO2, RUNX1, RUNX3, SRRM1, TCF12, THADA, TRPS1, TTC27, VGLL4, WARS2, APCDD1, DUSP22, FAM53B, IQGAP1, PRR23A, SETBP1, SPAG17, SPPL2C, SRD5A2, SUPT3H, UBE2G2, WNT10A, ZNF462, KIRREL3, SLC14A2

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## Health risks

### Other Health Risks

#### Syndromic Hearing Loss



#### Explanation:

Syndromic hearing loss means that hearing impairment is associated with other conditions

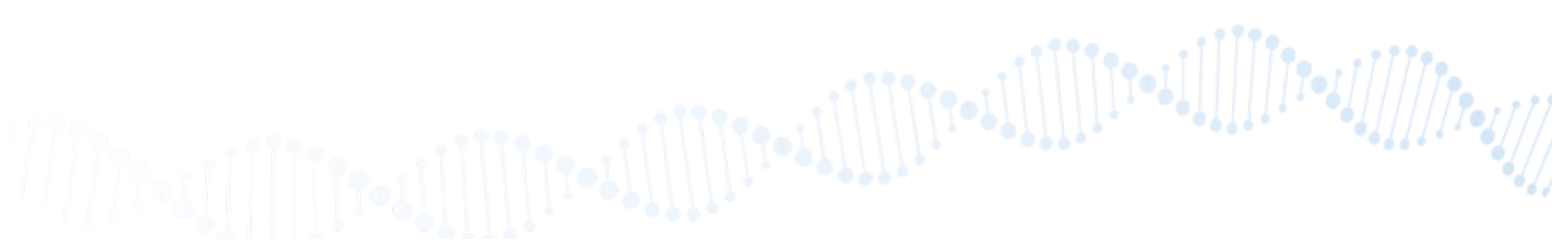
#### Recommendations:

There are no known ways to prevent Syndromic Hearing Loss. However, if you're at risk of developing Syndromic Hearing Loss from your DNA, consult your doctor to help screen and potentially catch it in its early stage.

#### Detected Genes:

BSND, CHD7, DSPP, EYA1, MITF, MYH9, OTOF, PAX3, SIX1, WFS1, WHRN, ACTG1, BCSIL, CDH23, CEP78, CLRN1, DNMT1, EDNRB, GPSM2, KCNE1, KCNQ1, LARS2, MYO7A, USH1C, USH1G, USH2A, ABHD12, ADGRV1, CDC14A, DIAPH1, DIAPH3, PCDH15, CACNA1D, COL11A2, HSD17B4, SLC26A4, SLC52A2, SLITRK6, ATP6V1B1, C10orf105

SAMPLE REPORT



## Health risks

### Other Health Risks

#### Non-Syndromic Hearing Loss



#### Explanation:

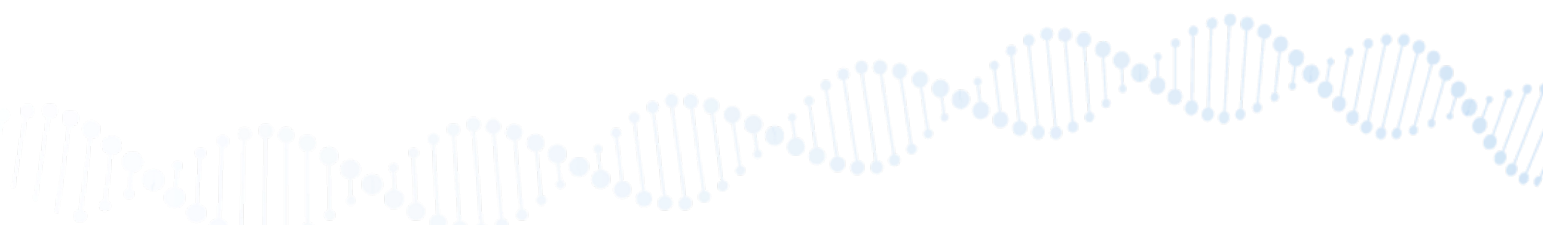
Non-syndromic hearing loss is a hearing loss that occurs with no other symptoms. Degrees of hearing loss range from mild (difficulty understanding soft speech) to profound (inability to hear even deafening noises)

#### Recommendations:

Prevention of genetic hearing loss is feasible through prepregnancy and prenatal genetic diagnosis and counseling.

#### Detected Genes:

HGF, RDX, CIB2, COCH, EPS8, ESPN, EYA4, GJB2, MYO6, OTOA, OTOG, SMPX, STRC, TMC1, TMIE, WHRN, ACTG1, CDH23, CLIC5, ESRRB, GRHL2, ILDR1, KCNQ4, MSRB3, MYH14, MYO3A, MYO7A, OTOGL, P2RX2, PDZD7, SYNE4, CLDN14, GRXCRI, GRXCR2, LOXHD1, LRTOMT, MYO15A, OSBPL2, TRIOBP, COL11A2, TMPRSS3, MARVELD2, SERPINB6, C10orf105





## Health risks

### Other Health Risks

#### Early Onset Myocardial Infarction



#### Explanation:

Myocardial Infarction or Heart attack happens when one or more areas of the heart muscle don't get enough oxygen. This occurs when blood flow to the heart muscle is blocked. Common symptoms include severe pressure, squeezing, pain, or discomfort in the center of the chest that lasts for more than a few minutes.

#### Recommendations:

You can lower your risk, most likely, by making a few lifestyle changes that promote better health as follows:

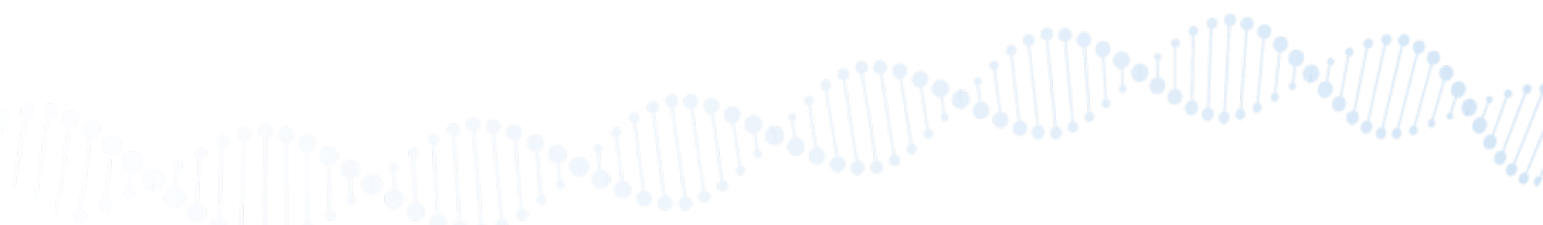
- 1) Avoid smoking.
- 2) Eat a diet low in fat, cholesterol, and salt.
- 3) See your doctor regularly for blood pressure and cholesterol monitoring.
- 4) Do moderate and regular aerobic exercise. People over age 50 who have led an inactive lifestyle should check with a doctor before beginning an exercise program.
- 5) Lose weight if you are overweight.
- 6) Consult your doctor for medication. Your doctor may advise you to take a low dose of aspirin regularly. Aspirin reduces the tendency for the blood to clot, thereby decreasing the risk of a heart attack.



**Detected Genes:**

MTR, APOB, BRAP, LDLR, LRP6, MIA3, ABCC6, ABCG8, PCSK9, PLCL2, WDR12, CELSR2,  
ZNF536, LDLRAPI, PHACTR1, SMARCA4, CDKN2B-AS1

**SAMPLE REPORT**



## Health risks

### Common Health Risks

#### Stroke



#### Explanation:

A stroke is a serious life-threatening medical condition when the blood supply to part of the brain is cut off. Signs of Stroke in Men and Women include the following; Sudden numbness or weakness in the face, arm, or leg, especially on one side of the body.

Sudden confusion, trouble speaking, or difficulty understanding speech.

Sudden trouble seeing in one or both eyes.

Sudden trouble walking, dizziness, loss of balance, or coordination.

Sudden severe headache with no known cause.

#### Recommendations:

You can significantly reduce your risk of having a stroke by:

- 1) Eat a healthy diet
- 2) Take a regular exercise
- 3) follow the recommended guidelines on alcohol intake (not drinking more than 14 units a week)
- 4) Avoid smoking

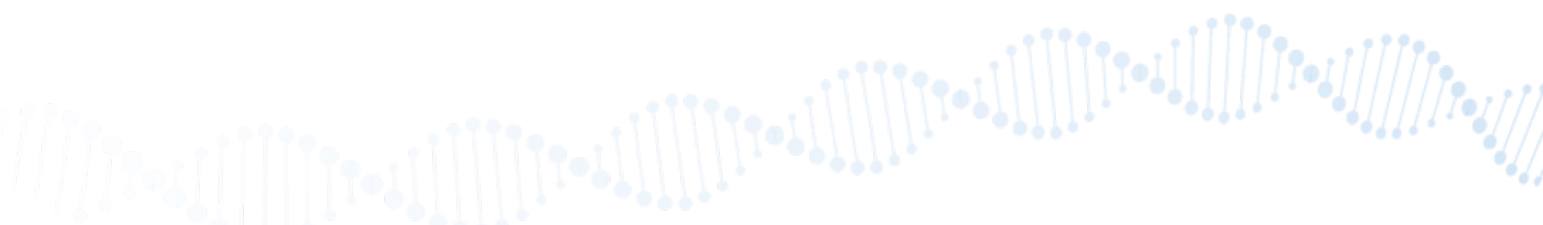
#### Fact:

Stroke is a leading cause of serious long-term disability. Stroke reduces mobility in more than half of stroke survivors age 65 and over.

**Detected Genes:**

F2, F5, F7, ABO, FGA, FGB, HK1, LPA, NF1, TTR, VHL, AQP9, ASS1, FAF1, FBN1, FUT8, HPS4, JAK2, MFN2, PCCA, PCCB, PCNT, PKD1, ABCA1, ABCC1, ABCC6, ALDH2, CDC5L, DACHI, FARP1, HDAC9, HTRA1, KCNN3, NEDD4, NINJ2, PTPRF, PTPRG, SMAD3, SPSB4, TGFB2, ZFH3, ACVRL1, ALKBH8, CACNB2, CAMK2D, COL4A1, COL4A2, NBEAL1, NEURL1, NOTCH3, PIK3CA, SAMHD1, TCF7L2, TSPAN2, CACNA1A, SLC2A10, SLCO1B1, TMEM163, SLC26A11

**SAMPLE REPORT**



## Health risks

### Common Health Risks

#### Obesity



#### Explanation:

The term obese describes a very overweight person with excessive body fat. It's a medical problem that increases the risk of other diseases and health problems, such as heart disease, diabetes, high blood pressure, and certain cancers. Body mass index is often used to diagnose obesity. (BMI > 30 is considered obesity)

#### Recommendations:

You can reduce obesity by doing the following;

- 1) Maintain a healthy weight and diet
- 2) Stay physically active

#### Fact:

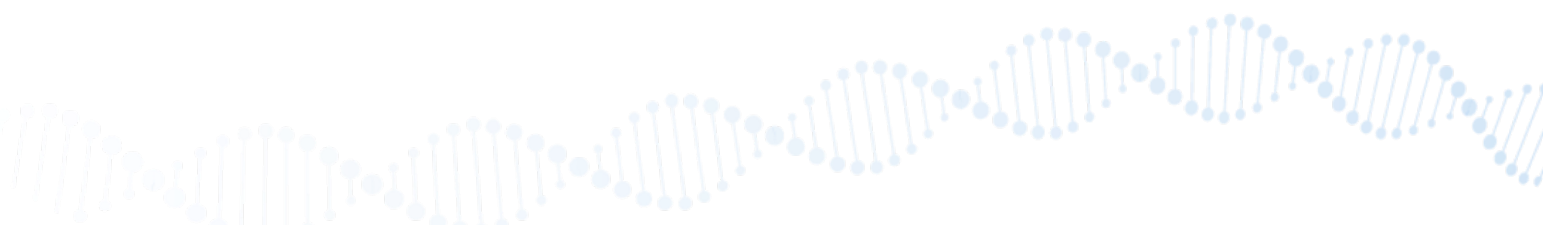
Babies born to obese mothers are more likely to be significant at birth, called macrosomia. Macrosomia puts babies at risk of bone breaks during childbirth and is associated with higher rates of cesarian delivery. It also increases the mother's risk of extensive bleeding during childbirth.

BMI provides a reasonable estimate of body fat. However, it doesn't directly measure body fat, so some people, such as muscular athletes, may have a BMI in the obesity category even though they don't have excess body fat. Many doctors also measure a person's waist circumference to help guide treatment decisions. Weight-related health problems are more common in men with a waist circumference over 40 inches (102 centimeters) than women with a waist

measurement over 35 inches (89 centimeters).

### Detected Genes:

ALK, DDC, FTO, GP2, GRP, KIZ, MAF, ANO3, ASB4, BCL2, BDNF, BRAP, CD47, CPS1, CRB2, EML6, ETV5, FBN2, FGF2, FHIT, FIGN, FLT3, FSHB, GBE1, GIPR, GLDC, GNBI, HHIP, HIP1, KLF9, LEPR, MCM6, MRAS, NPC1, PATJ, POMC, SIM1, SUFU, TAL1, TCF4, TLK1, VWC2, ACAP2, ADCY3, ADCY5, ADCY9, AGLB4, AKAP6, ALCAM, ALDH2, ARNTL, AUTS2, AXIN1, BACE2, BTBD7, CADM1, CADM2, CBLN1, CCNE1, CELF1, CLIPI, CLVS1, CMYA5, CPNE4, CRTCI, CTBP2, DDX42, DMXL2, DOCK1, EFR3B, EHBPI, EIF3H, ERBB4, FOXO3, FOXP2, GNAT2, HTR3D, ITGB3, ITIH1, ITPR3, KCNK3, LEMD2, LMX1B, LRPIB, MAGI2, MDFIC, MTCH2, NCAM1, NEGRI, NINJ1, NRXN3, NT5C2, NTRK2, PACS1, PALD1, PCNX2, PDS5B, PRKDI, PRMT7, PTBP2, RALYL, RCAN2, REEP3, RPTOR, SKAP1, STAG1, STK33, UBE3C, USP37, VEGFA, YIPF7, ABLIM3, ADAM23, ADARB1, ATXN2L, BRINP3, CALCRL, CCDC77, CDKAL1, CEP120, COBLL1, CTNNA2, DNAJB4, DUSP26, ELAVL4, GALNT9, GGNBP2, GNPDA2, GPRC5B, HIFIAN, KCNJ11, KCNMA1, KCTD15, LINGO2, MAP2K5, MMS22L, NPBWR2, OR4C15, PDXDC1, PGPEP1, PMAIP1, PPP1CB, PRNCRI, RABEP1, RBFOX3, SCARB2, SCNN1A, SEC16B, SEMA6D, SLC8A1, SPAG16, TCF7L2, TFAP2B, TMEM18, TNRC6B, ZNF248, ZNF536, CACNA1D, GALNT10, L3MBTL3, MACROD2, SDCCAG8, C11orf53, C12orf42, EPB41L4B, HLA-DQA2, HSD17B12, RAB3GAP1



## Health risks

### Common Health Risks

#### Migraine



#### Explanation:

A migraine is usually a moderate or severe headache felt as a throbbing pain on one side of the head. Symptoms include consistent headaches, feeling sick, and increased sensitivity to light or sound.

#### Recommendations:

It may also help maintain a generally healthy lifestyle, including regular exercise, sleep, and meals, ensuring you stay well hydrated and limiting your intake of caffeine and alcohol.

Over-the-counter pain medicines, such as acetaminophen, ibuprofen, or aspirin, are often helpful when a migraine is mild. If these treatments do not help or the migraines are frequent, a physician may prescribe medication.

#### Fact:

- It's the third common disease in the world
- Women suffer more than men. Of the one billion people on Earth who have migraine disorder, three-fourths are women

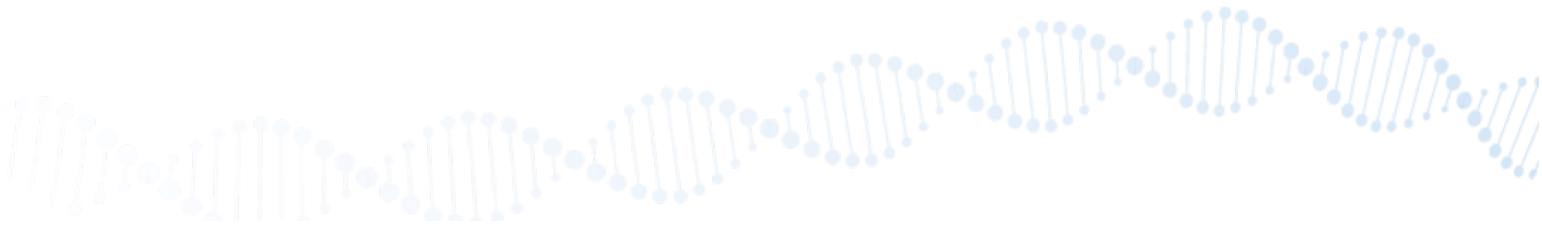
#### Detected Genes:

ATF7, CDH4, DLG2, EYA1, FBN2, LRP1, NRPI, PPOX, SVIL, TAB2, UFL1, WAPL, WASL, YAPI, AGBL1, AKAP7, ASTN2, BPIFC, CASZ1, CDC5L, CDH13, CFDP1, CLCN1, CNNM2, CNPY1, DIP2C, DOCK4, GFRA1, GPR26, HABP2, HPSE2, IGLL1, KANK1, KCNK5, MEF2D, MMP17, NR3C1, PHF20, PRKG1, ROBO1, RRBPI, SASH1, SMYD3, SNX24, STK10, SUGCT, TRPM8, VSTM4, ADAM28,



ADARB2, ATP1A2, CTNNA3, FRMD4A, MPPED2, MRPL37, PRDM16, RNF213, SCN11A, SESTD1, TBXAS1, TGFB2, TSPAN2, ZDHHC6, CACNA1A, CYP2C19, PHACTR1, SLC24A3, ADAMTSL4, LEPROTL1, C10orf126, CDKN2B-AS1

**SAMPLE REPORT**





## Health risks

### Common Health Risks

#### Hypertension



#### Explanation:

High blood pressure, also called hypertension, is blood pressure that is higher than usual. If your blood pressure is extremely high, there may be certain symptoms to look out for, including severe headaches, limbs weakness, blurred vision, chest pain, difficulty breathing, irregular heartbeat, and shortage of urine.

#### Recommendations:

You can reduce high blood pressure by doing the following;

- 1) Eat a healthy diet and keep yourself at a healthy weight
- 2) Be Physically active
- 3) Avoid smoking
- 4) Limit how much alcohol you drink. Men should have no more than 2 alcoholic drinks per day, and women should have no more than 1 alcoholic drink per day. Definition of 1 drink is 30 ml of regular beer, 45 ml of liquor, or 150 ml of wine.
- 5) Get Enough Sleep

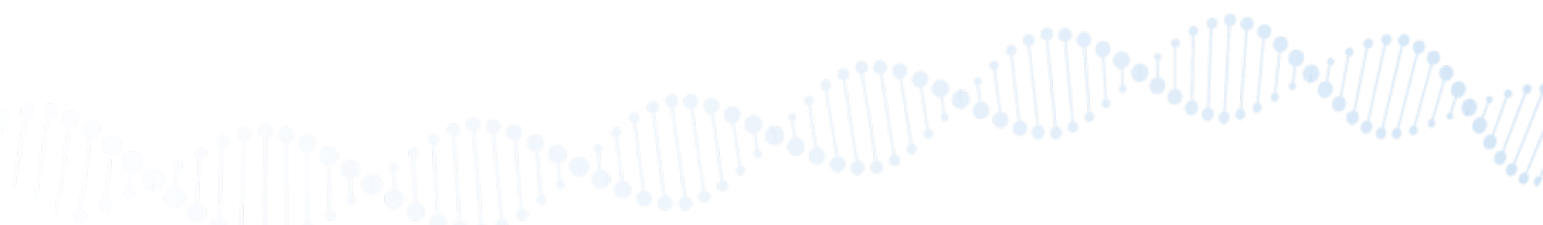
#### Fact:

Many people who have high blood pressure don't know it. About 1 in 3 U.S. adults with high blood pressure aren't even aware they have it and are not being treated to control their blood pressure.

**Detected Genes:**

ABO, ACE, AGT, DBH, FES, HFE, LPP, SCD, ADH7, ATF1, ATG7, BAG6, CHD3, CUL3, DLST, EBF2, FGD5, FIGN, INSR, IRF5, LMO1, LSP1, MAP4, MDM4, MSRA, MYH6, MZT1, NMT1, NOS3, NOX5, NPR1, NPR3, PHIP, PKN2, RGL3, SOX6, ST7L, TBX2, TBX3, TNXB, ULK4, UMOD, WNK1, XKR6, ADRB2, AGLB2, ALDH2, ARNTL, ASB15, CASZ1, CDH17, CERS5, CLCN6, CNNM2, ENPEP, FRMD3, FSTL4, GOSR2, GPR20, GRB14, HLA-B, HOXA3, HOXB7, HOXC4, HSPB7, KCNK3, KLHL3, LACTB, MECOM, MOV10, NR3C2, NUCB2, PODXL, PPCDC, PRAG1, PREX1, PSMD5, RAPSN, RBM43, RBM47, RRP1B, SBNO1, SH2B3, SVEP1, TNNT3, TTLL6, WNT2B, ZFPM2, ZNRF3, ATP2B1, BMPR1B, CACNB2, CAPZA1, CELA2A, GRIFIN, HECTD4, HIVEP3, KIF18A, MED13L, OR5B12, PHLDB2, PIK3CG, PRKAG2, PTPMT1, ROPN1L, SCNN1B, SCNN1G, SH3TC2, SLC4A7, TNRC6A, TNRC6B, TRIM36, ZBTB38, ZC3HC1, ZNF831, ANKDD1B, ARHGEF3, C2orf16, CACNA1D, CSNK1G3, CYP11B1, CYP11B2, CYP2C19, HSD11B2, L3MBTL4, MAPKAP1, PHACTR1, PLEKHA7, PLEKHG1, PPP4R3B, SLC22A7, SPATS2L, SULT1C3, SYNPO2L, TMEM116, ZFP36L1, ZFP36L2, ZNF385B, ARHGAP24, ARHGAP42, SNRNP200, LINC00208

SAMPLE REPORT



## Health risks

### Common Health Risks

#### Heart Disease



#### Explanation:

Heart disease is a collection of diseases and conditions that cause cardiovascular problems, such as coronary artery disease, heart arrhythmias, valvular disease, heart muscle disease, and heart failure.

#### Recommendations:

What you can do to lower the risks of heart disease

- 1) Control your blood pressure - get your blood pressure checked regularly, at least once a year for most adults, and more often if you have high blood pressure already
- 2) Keep your cholesterol and triglyceride levels under control
- 3) Maintain a healthy weight and diet
- 4) Limit alcohol and smoking
- 5) Manage stress
- 6) Control your blood sugar level
- 7) Make sure that you get enough sleep
- 8) Get regular exercise. Exercise has many benefits, including strengthening your heart and improving your circulation. It can also help you maintain a healthy weight and lower cholesterol and blood pressure. All of these can reduce your risk of heart disease.

**Fact:**

-Heart disease is the leading cause of death in the United States.

-Your risk of heart disease increases as you get older. Men age 45 and older and women age 55 and older have a greater risk.

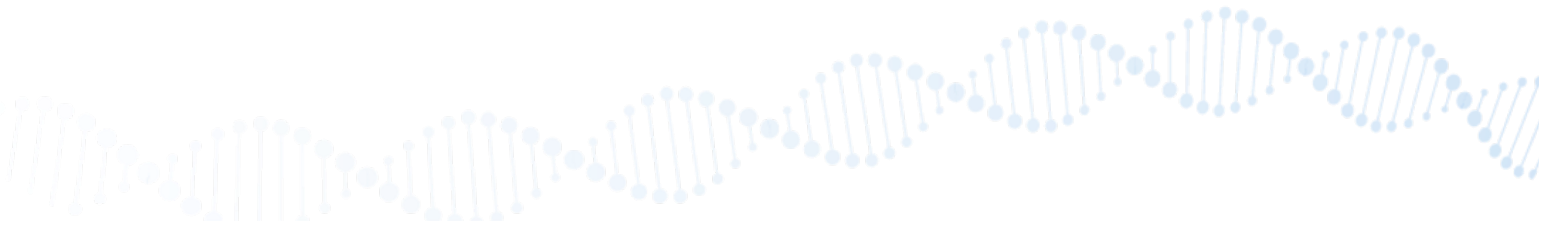
**Detected Genes:**

C2, C5, ABO, AGT, BTBD, C1S, CFB, CKB, DYM, ERG, FES, FN1, GIP, LPA, LPL, NGF, PHB, PLG, SKI, TEK, APOB, ASZ1, BMP1, CCM2, CD3D, CETP, CTR9, CUX2, DOK3, DPYD, EML1, ETV1, FBF1, FBN2, FGD5, FGD6, FIGN, GUK1, HHAT, IBTK, IL6R, ING1, LDLR, LIPA, LIPG, LRPI, MIA3, MRAS, MSL2, MTAP, NAT2, NEK9, NFIB, NME7, NOA1, NOS3, NPC1, PKN2, PSAP, PTK7, RAC1, SMG6, SOX6, STN1, TET2, TNS1, UMPS, VWDE, WNT3, ZEB2, ZHX3, ABCA1, ABCA8, ABCG8, ABHD2, ACTR2, AHDC1, ARL15, ARNTL, BCAS3, CDH13, CENPO, CENPW, CFDPI, CNM2, CRYGN, DHX38, EDNRA, EHBPI, FKBP5, FNDC1, FOXA3, GOSR2, HGFAC, HNF1A, HTRA1, IGF2R, KANK2, KCNH7, KCNK5, KLF14, LMOD1, LOXL1, MAST4, MCF2L, MCTP2, MERTK, MMP13, MYH11, MYO9B, NEDD9, PARP1, PCSK9, PDS5B, PKHD1, PLCE1, PLCG2, PREX1, PRIM2, PRKCE, PRKG1, REEP3, RRBPI, RRP1B, RSBNI, SETD9, SEZ6L, SF3A3, SH2B3, SMAD3, SMAD9, STAG1, SVEP1, TDRKH, TGFB1, THADA, TRIB1, TRIM5, UBE2Z, USP43, VEGFA, VPS11, WDR11, WDR12, WDR33, ZFPM2, ABCC10, ACAD10, AKAP12, ANKS1A, ANP32B, ARID4A, ATP1B1, ATP2B1, BCAP29, BMP1B, BTBD11, CALCRL, CCDC92, CCDC97, CELSR2, CLTCL1, COL4A1, COL4A2, COL4A4, COL6A3, DAB2IP, FBXL20, FNDC3B, GALNT2, HECTD4, HHIPL1, HIVEP2, HNRNPM, INPP5D, MAD1L1, NBEAL1, OTUD7B, PARP12, PDLIM5, PECAM1, PIK3CG, PKD1L3, PKD2L1, PPHLN1, PRDM16, QRI1, RBPMS2, SCAF11, SCARB1, SEMA5A, SRFBP1, TBXAS1, TCF7L2, TDRD15, TSPAN9, TTC39B, ZC3HC1, ZNF335, ZNF787, ZNF827, ZNF831, ADAMTS7, ANKRD50, C1GALT1, C5orf67, CARMIL1, CTTNBP2, CWF19L2, CYP46A1, DENND5A, DNAJC13, EFCAB13, EXOC3L2, MTHFD1L, N4BP2L2, NDUFA12, PHACTR1, PLEKHA7, PLEKHG1, PPP2R2A, SELENO1, SLC18A1, SLC22A3, SLC22A4, SLC2A12, SLC46A3, SMARCA4, ST3GAL4, TMEM204, TRIM64C, TRPC4AP, TSPAN14, ZC3H12D, ZFP36L2, ANKRD13B, ARHGAP15, ARHGAP26, ARHGAP42, ARHGEF12, ARHGEF26, B4GALNT2, DYNC2LI1, HLA-DQB1, HSD17B12, SERPINA1,



SERPINH1, SLC25A21, TMEM106B, MPHOSPH10, CDKN2B-AS1

**SAMPLE REPORT**



## Health risks

### Common Health Risks

#### Type 2 Diabetes



#### Explanation:

Type 2 diabetes is the most common form of diabetes. It happens when blood sugar levels rise due to problems with the use or production of insulin. When signs and symptoms are present, they may include increased thirst, frequent urination, increased hunger, frequent infections, fatigue, numbness or tingling in the hands or feet, or areas of darkened skin, usually in the armpits and neck.

#### Recommendations:

Healthy lifestyle choices can help prevent type 2 diabetes, and that's true even if you have biological relatives living with diabetes. A healthy lifestyle includes doing the following;

- 1) Eat healthy foods. Choose foods lower in fat and calories and higher in fiber. Focus on fruits, vegetables and whole grains.
- 2) Get active. Aim for 150 or more minutes a week of moderate to vigorous aerobic activity, such as a walk, cycling, running or swimming.
- 3) Lose weight. Losing a modest amount of weight and keeping it off can delay the progression from prediabetes to type 2 diabetes. If you have prediabetes ( blood sugar levels of 100–125 mg/dl), losing 7% to 10% of your body weight can reduce the risk of diabetes.
- 4) Avoid inactivity for long periods. Sitting still for long periods can increase your risk of type 2 diabetes. Try to get up every 30 minutes and move around for at least a few minutes.

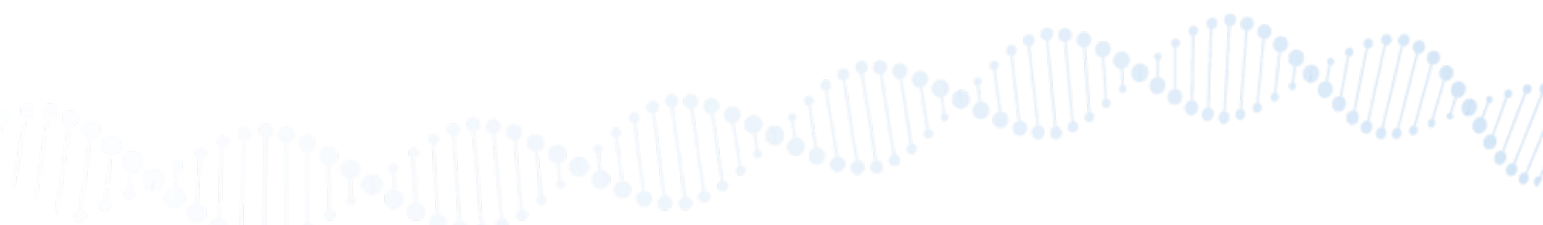
**Fact:**

It can appear at any age, but it is more likely to occur after the age of 45 years

**Detected Genes:**

ABO, BLK, FTO, GCK, HFE, HK1, NXN, AGMO, ANK1, BCL2, BRAF, CDH3, DGKB, EML2, GAS6, GCC1, GCKR, GRK5, LMO1, MAEA, MICA, PAX6, PEPD, PHB2, RFX6, SGCD, SGCG, SSR1, SYN2, TLE1, USP4, WDR4, WFS1, YKT6, ABCB9, ABCC8, ADCY5, ARL15, ATXN2, BET1L, CENPW, CERS2, CTRB1, CTRB2, EHMT2, ERAL1, EXOC6, FADS2, FOXN2, FOXN3, FREM3, G6PC2, GLIS3, GPSM1, GRB10, GRB14, HECW1, HMGA2, HNF1A, HNF1B, HNF4A, INTS8, JADE2, JAZF1, KCNQ1, KDM2B, KLF14, MYO9B, PPARG, RBMS1, RREB1, SALL1, SCRN3, SENP1, SPTA1, THADA, UBE2Z, WDR11, ZMIZ1, ABCB11, ATAD2B, ATP11A, ATP8B2, C2CD4A, CAMKK2, CAPN13, CDKAL1, COBLL1, DPYSL5, FN3KRP, FNDC3B, HIGD1C, HMG20A, KCNJ11, KCNK16, NOTCH2, PIEZO1, TBC1D4, TCF7L2, TSPAN8, UBE2E2, VPS33B, ZFAND6, C5orf67, CCDC85A, CREB3L1, EIF2AK3, FAM234A, NEUROD1, SLC19A2, SLC30A8, TMPRSS6, C16orf74, HLA-DQA2, SLC16A11, TP53INP1, ZBED3-AS1, CDKN2B-AS1

SAMPLE REPORT



## Health risks

### Common Health Risks

#### High Cholesterol



#### Explanation:

High cholesterol is when you have too much of a fatty substance called cholesterol in your blood. High cholesterol has no symptoms. A blood test is the only way to detect if you have it.

#### Recommendations:

You can improve your cholesterol by doing the following;

- 1) Eat heart-healthy foods such as leafy green vegetables, fish and skinless poultry, protein-rich beans, and low-fat dairy products
- 2) Exercise on most days of the week for at least 30 mins/time and increase your daily physical activities
- 3) Avoid smoking
- 4) Maintain a healthy weight
- 5) Drink alcohol only in moderation

#### Fact:

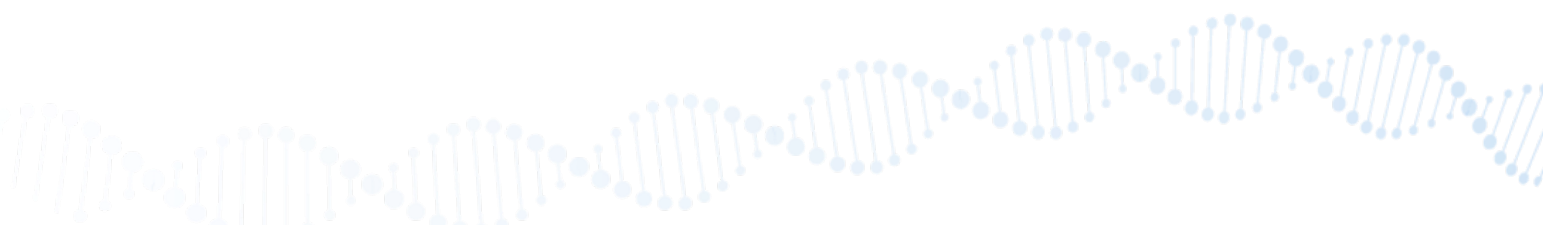
- Sweating can raise your good cholesterol levels.
- Cholesterol Rises After Menopause. In women before menopause, estrogen helps keep cholesterol in check



**Detected Genes:**

ABO, FN1, FRK, HFE, LPA, LPL, PLG, P XK, VTN, APOB, AQP9, BCAM, CETP, COG5, DDB2, DMTN, DNM2, FGF1, GCKR, JAK2, LDLR, LIPC, LIPG, MADD, MAU2, PGS1, PLEC, PLTP, SNX5, SNX8, TNIK, TOPI, TPM1, ABCA1, ABCA6, ABCA8, ABCB4, APOA4, ATXN2, BAZ1B, BRWD1, CKAP5, EHBP1, FOLH1, HLA-C, KLF12, KLF14, LIMS1, LITAF, MTCH2, MTMR3, MYLIP, MYO1H, MYO5B, NLRC5, NUP93, OR4C3, PEX14, PPARA, PRKCE, PTPRJ, RAPSN, STAC2, TIMD4, TRIB1, TRPS1, UBE3B, ZFH X3, ZFPM1, ABCB11, CELSR2, COBLL1, DNAH10, DNAH11, FABP12, GALNT2, GIGYF1, GLTPD2, INTS10, LILRA5, LILRB2, NFATC3, NUP160, OR4A47, OR4C45, OSGIN1, PKD1L3, PPP6R2, R3HDM2, RNF130, SCAMP5, SCARB1, TTC39B, UBXN2B, UGT1A6, ZNF274, ZNF335, C7orf50, CSNK1G3, DENND4C, DNAJC13, EFCAB13, FAMI17B, FAMI36A, HLA-DRA, MTHFD2L, N4BP2L2, PLA2G15, PLEKHO2, SLC12A3, SLC17A2, SLC18A1, SMARCA4, TMPRSS6, TRIM49B, ARHGEF15, HLA-DQB1, RAD51AP2, SERPINA1, TMPRSS11E, CSGALNACT1

**SAMPLE REPORT**



## Health risks

### Common Health Risks

#### Familial Hypercholesterolemia



#### Explanation:

Familial hypercholesterolemia causes LDL (bad) cholesterol level to be very high. The condition begins at birth and can cause heart attacks at an early age. One of the main signs of FH is LDL cholesterol levels over 190 mg/dL in adults (and over 160 mg/dL in children)

#### Recommendations:

There are no known ways to prevent Familial Hypercholesterolemia. However, if you're at risk of developing Familial Hypercholesterolemia from your DNA, consult your doctor for LDL-cholesterol screening to potentially detect it early.

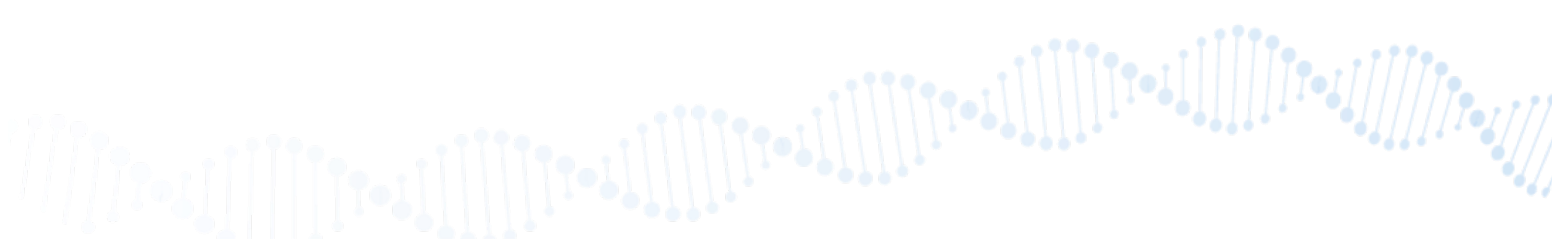
#### Fact:

Men who have familial hypercholesterolemia have heart attacks in their 40s to 50s, and 85 percent of men with the disorder have a heart attack by age 60.

#### Detected Genes:

APOB, LDLR, PCSK9

SAMPLE REPORT



## Health risks

### Common Health Risks

#### Non-Alcoholic Fatty Liver Disease



#### Explanation:

Non-alcoholic fatty liver disease (NAFLD) is the term for a range of conditions caused by a build-up of fat in the liver. It's usually seen in people who are overweight or obese. This build-up can cause inflammation and damage to the liver, which can later lead to liver scarring called cirrhosis.

#### Recommendations:

You can reduce the non-alcoholic fatty liver disease by doing the following;

- 1) Eat more plant foods and eat healthy fats
- 2) Replace processed grains with whole grains
- 3) Cut way back on high sugar diet.
- 4) Discuss your alcohol intake with your doctor
- 5) Stay physically active

#### Fact:

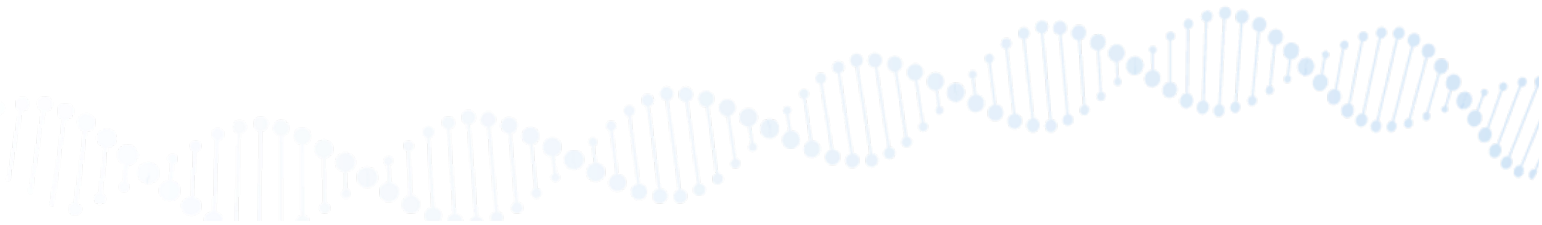
- Insulin resistance is a major cause of Non-Alcoholic Fatty Liver Disease (NAFLD). Therefore, the prevalence of diabetes is higher in people with NAFLD. Additionally, up to 80 percent of obese people have NAFLD.



**Detected Genes:**

NGF, GCKR, DCLK1, YIPF1, HS3ST1, PNPLA3, TM6SF2, ZNF512, TRAPPC9

**SAMPLE REPORT**



# Medication

**SAMPLE REPORT**





## Medication

Use as Directed

Decrease/Increase

Use with Caution

### 1. Pain

Propofol	●		
Fentanyl		●	
Morphine		●	
Naloxone	●		
Naproxen	●		
Celecoxib	●		
Ibuprofen	●		
Meloxicam	●		
Methadone	●		
Rocuronium	●		
Adalimumab	●		
Alfentanil	●		
Diclofenac	●		
Duloxetine	●		
Etanercept	●		
Infliximab	●		
Naltrexone	●		
Paracetamol	●		
Sumatriptan	●		
Flurbiprofen	●		
Flurbiprofen	●		
Indomethacin		●	
Methotrexate		●	
Buprenorphine	●		
Sulfasalazine		●	
Valproic acid		●	

SAMPLE REPORT





## Medication

Use as Directed

Decrease/Increase

Use with Caution

### 2. Diabetes

Losartan	●	
Enalapril		●
Glipizide		●
Metformin	●	
Valsartan	●	
Gliclazide		●
Lovastatin	●	
Olmesartan	●	
Fenofibrate	●	
Fluvastatin		●
Glimepiride		●
Pravastatin		●
Repaglinide		●
Simvastatin	●	
Telmisartan	●	
Atorvastatin		●
Pioglitazone	●	
Rosuvastatin		●
Glibenclamide		●

SAMPLE REPORT





## Medication

Use as Directed

Decrease/Increase

Use with Caution

### 3. Geriatrics

Atenolol	●		
Levodopa	●		
Losartan	●		
Enalapril		●	
Glipizide		●	
Memantine	●		
Metformin	●		
Valsartan	●		
Adalimumab	●		
Carvedilol		●	
Entacapone	●		
Etanercept	●		
Gliclazide		●	
Infliximab	●		
Lovastatin	●		
Olanzapine	●		
Olmesartan	●		
Quetiapine	●		
Tiotropium		●	
Alendronate	●		
Fluvastatin		●	
Glimepiride		●	
Pramipexole	●		
Pravastatin		●	
Risedronate	●		
Simvastatin	●		
Telmisartan	●		

SAMPLE REPORT







## Medication

Use as Directed

Decrease/Increase

Use with Caution

### Geriatrics

Atorvastatin



Pioglitazone



Rivastigmine



Rosuvastatin



Glibenclamide



**SAMPLE REPORT**





## Medication

Use as Directed

Decrease/Increase

Use with Caution

### 4. Paediatrics

Diazepam		●	
Ibuprofen	●		
Budesonide	●		
Citalopram		●	
Daptomycin		●	
Olanzapine	●		
Quetiapine	●		
Salbutamol		●	
Salmeterol		●	
Sertraline		●	
Fluticasone	●		
Montelukast	●		
Paracetamol	●		
Rabeprazole		●	
Ziprasidone	●		
Aripiprazole	●		
Erythromycin	●		
Escitalopram		●	
Esomeprazole		●	
Fexofenadine		●	
Paliperidone	●		
Pantoprazole		●	
Voriconazole		●	
Dicloxacillin		●	
Phenobarbital		●	
Phenylephrine		●	
Triamcinolone	●		

SAMPLE REPORT





## Medication

Use as Directed

Decrease/Increase

Use with Caution

### Paediatrics

Valproic acid		●	
(es)omeprazole		●	
Dexlansoprazole		●	
Methylphenidate	●		
(dex)lansoprazole		●	

**SAMPLE REPORT**





## Medication

Use as Directed

Decrease/Increase

Use with Caution

### 5. Psychiatric

Clobazam		●	
Diazepam		●	
Naloxone	●		
Bupropion		●	
Midazolam	●		
Citalopram		●	
Duloxetine	●		
Naltrexone	●		
Olanzapine	●		
Quetiapine	●		
Sertraline		●	
Amisulpride	●		
Moclobemide		●	
Ziprasidone	●		
Aripiprazole	●		
Escitalopram		●	
Paliperidone	●		
Valproic acid		●	
Chlorpromazine	●		
Methylphenidate	●		

SAMPLE REPORT





## Medication

Use as Directed

Decrease/Increase

Use with Caution

### 6. Cardiovascular

Digoxin		●	
Atenolol	●		
Losartan	●		
Warfarin	●		
Enalapril		●	
Prasugrel		●	
Valsartan	●		
Verapamil		●	
Amlodipine	●		
Bumetanide	●		
Carvedilol		●	
Furosemide	●		
Lovastatin	●		
Olmesartan	●		
Ticagrelor	●		
Clopidogrel		●	
Fenofibrate	●		
Fluvastatin		●	
Hydralazine	●		
Pravastatin		●	
Simvastatin	●		
Telmisartan	●		
Atorvastatin		●	
Rosuvastatin		●	
Hydrochlorothiazide		●	
Isosorbide mononitrate	●		

SAMPLE REPORT





## Medication

Use as Directed

Decrease/Increase

Use with Caution

### 7. Commonly Prescribed Drugs

Morphine		●
Naproxen	●	
Celecoxib	●	
Glipizide		●
Ibuprofen	●	
Meloxicam	●	
Metformin	●	
Daptomycin		●
Diclofenac	●	
Gliclazide		●
Lovastatin	●	
Omeprazole		●
Slidenafil	●	
Alendronate	●	
Fluvastatin		●
Glimepiride		●
Paracetamol	●	
Pravastatin		●
Rabeprazole		●
Risedronate	●	
Simvastatin	●	
Atorvastatin		●
Carisoprodol		●
Erythromycin	●	
Esomeprazole		●
Fexofenadine		●
Flurbiprofen	●	

SAMPLE REPORT





## Medication

Use as Directed

Decrease/Increase

Use with Caution

### Commonly Prescribed Drugs

Indomethacin

Lansoprazole

Methotrexate

Pantoprazole

Rosuvastatin

Voriconazole

Dicloxacillin

Glibenclamide

Phenylephrine

Valproic acid

Dexlansoprazole



**SAMPLE REPORT**



## Medication Explanation

### Pain

#### 1 : Propofol

Propofol (Diprivan) is used for general anesthesia (put the whole body to "sleep" and eliminates the possibility of movement) for surgery. Propofol is in a class of medications called Anaesthetic. It works by potentiating the activity of certain brain chemical.

Tested Gene(s): CYP2B6

#### 2 : Fentanyl

Fentanyl (Durogesic) is used to treat breakthrough pain (sudden episodes of pain that occur despite around-the-clock treatment with pain medication). Fentanyl is in a class of medications called Opioid. It works by changing the way the brain and nervous system respond to pain.

Tested Gene(s): ABCB1, chr2:208494234, OPRM1

#### 3 : Morphine

Morphine is used to relieve moderate to severe pain. Morphine is in a class of medications called Opioid. It works by changing the way the brain and nervous system respond to pain.

Tested Gene(s): ABCB1, chr2:208494234, COMT, OPRM1

#### 5 : Naproxen

Naproxen is used to relieve pain, tenderness, swelling, and stiffness. It is also used to reduce fever. Naproxen is in a class of medications called Nonsteroidal Anti-Inflammatory Drug (NSAID). It works by stopping the body's production of a substance that causes pain, fever and inflammation.

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Tested Gene(s): CYP2C9

### 6 : Celecoxib

Celecoxib (Celebrex) is used to relieve pain, tenderness, swelling and stiffness. Celecoxib is also used to treat painful menstrual periods and to relieve other types of short-term pain including pain caused by injuries, surgeries and other medical or dental procedures. Celecoxib is in a class of medications called Nonsteroidal Anti-Inflammatory Drug (NSAID). It works by stopping the body's production of a substance that causes pain and inflammation.

Tested Gene(s): CYP2C9

### 7 : Ibuprofen

Ibuprofen (Advil) is used to relieve pain, tenderness, swelling, and stiffness. It is also used to reduce fever. Ibuprofen is in a class of medications called Nonsteroidal Anti-Inflammatory Drug (NSAID). It works by stopping the body's production of a substance that causes pain, fever, and inflammation.

Tested Gene(s): CYP2C9

### 8 : Meloxicam

Meloxicam (Mobic) is used to relieve pain, tenderness, swelling, and stiffness. Meloxicam is in a class of medications called Nonsteroidal Anti-Inflammatory Drug (NSAID). It works by stopping the body's production of a substance that causes pain, fever, and inflammation.

Tested Gene(s): CYP2C9

### 9 : Methadone

Methadone is used to relieve severe pain or prevent withdrawal symptoms in patients who were addicted to opiate drugs. Methadone is in a class of medications called Opioid. Methadone works to treat pain by changing the way the brain and nervous system respond

SAMPLE REPORT



to pain. It works to treat people who were addicted to opioid drugs by producing similar effects and preventing withdrawal symptoms in people who have stopped using these drugs.

Tested Gene(s): CYP2B6

### 10 : Rocuronium

Rocuronium is used as anesthesia (temporary induced loss of sensation or awareness) for surgery. Rocuronium is in a class of medications called Neuromuscular Blocker. It works by changing the activity of certain natural substances in the brain.

Tested Gene(s): SLCO1B1

Your results suggest rocuronium might be used at a lower dose to avoid potential side effects. Common side effects of rocuronium include cough, dizziness, fainting, difficulty with breathing and irregular heartbeat etc.

### 11 : Adalimumab

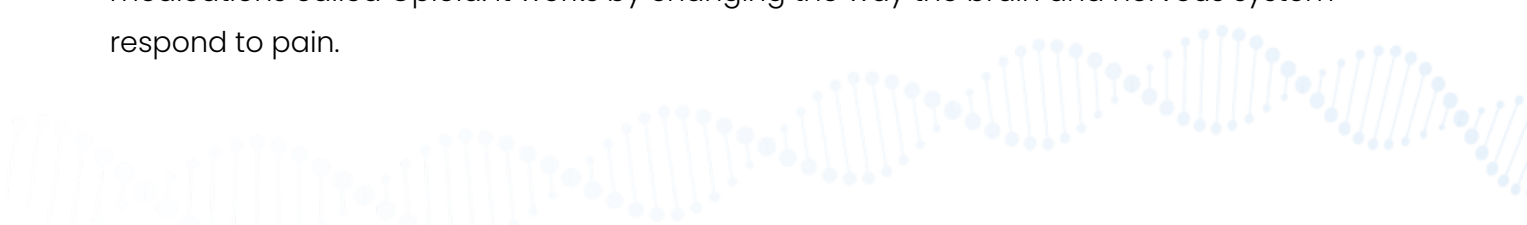
Adalimumab (Humira) is used alone or with other medications to relieve the symptoms of certain autoimmune disorders (conditions in which the immune system attacks healthy parts of the body and causes pain, swelling, and damage) such as rheumatoid arthritis (a condition in which the body attacks its own joints, causing pain, swelling, and loss of function). Adalimumab is in a class of medications called Tumor Necrosis Factor (TNF) Inhibitor. It works by blocking the action of TNF, a substance in the body that causes inflammation.

Tested Gene(s): TNF

### 12 : Alfentanil

Alfentanil (Rapifen) is used to treat breakthrough pain (sudden episodes of pain that occur despite around-the-clock treatment with pain medication). Alfentanil is in a class of medications called Opioid. It works by changing the way the brain and nervous system respond to pain.

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Tested Gene(s): OPRM1

### 13 : Diclofenac

Diclofenac (Voltaren) is used to relieve pain, tenderness, swelling, and stiffness caused by osteoarthritis (arthritis caused by a breakdown of the lining of the joints), and rheumatoid arthritis (arthritis caused by swelling of the lining of the joints). It is also used to relieve mild to moderate pain. Diclofenac is in a class of medications called Nonsteroidal Anti-Inflammatory Drug (NSAID). It works by stopping the body's production of a substance that causes pain, fever, and inflammation.

Tested Gene(s): CYP2C9

### 15 : Etanercept

Etanercept (Enbrel) is used alone or with other medications to relieve the symptoms of certain autoimmune disorders (conditions in which the immune system attacks healthy parts of the body and causes pain, swelling, and damage) such as rheumatoid arthritis (a condition in which the body attacks its own joints, causing pain, swelling, and loss of function). Etanercept is in a class of medications called Tumor Necrosis Factor (TNF) Inhibitor. It works by blocking the action of TNF, a substance in the body that causes inflammation.

Tested Gene(s): TNF

### 16 : Infliximab

Infliximab (Remicade) is used to relieve the symptoms of certain autoimmune disorders (conditions in which the immune system attacks healthy parts of the body and causes pain, swelling, and damage). Infliximab is in a class of medications called Tumor Necrosis Factor (TNF) Inhibitor. They work by blocking the action of TNF-alpha, a substance in the body that causes inflammation.

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Tested Gene(s): TNF

### 18 : Paracetamol

Paracetamol (Panadol), also known as acetaminophen (Tylenol), is used to relieve mild to moderate pain and reduce fever. It works by changing the way the body senses pain and by cooling the body.

Tested Gene(s): UGT1A

### 19 : Sumatriptan

Sumatriptan (Imigran) is used to treat the symptoms of migraine headaches (severe, throbbing headaches that sometimes are accompanied by nausea or sensitivity to sound and light). Sumatriptan is in a class of medications called Triptan. It works by narrowing blood vessels in the head, stopping pain signals from being sent to the brain, and blocking the release of certain natural substances that cause pain, nausea, and other symptoms of migraine.

Tested Gene(s): GNB3

### 21 : Flurbiprofen

Flurbiprofen is used to relieve pain, tenderness, swelling, and stiffness caused by osteoarthritis (arthritis caused by a breakdown of the lining of the joints) and rheumatoid arthritis (arthritis caused by swelling of the lining of the joints). Flurbiprofen is in a class of medications called Nonsteroidal Anti-Inflammatory Drug (NSAID). It works by stopping the body's production of a substance that causes pain, fever, and inflammation.

Tested Gene(s): CYP2C9

### 22 : Indomethacin

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Indomethacin (Indocid) is used to relieve moderate to severe pain, tenderness, swelling, and stiffness. Indomethacin is in a class of medications called Nonsteroidal Anti-Inflammatory Drug (NSAID). It works by stopping the body's production of a substance that causes pain, fever, and inflammation.

Tested Gene(s): CYP2C19

### 23 : Methotrexate

Methotrexate is used, sometimes with other medications, to rheumatoid arthritis (RA; a condition in which the body attacks its own joints, causing pain, swelling, and loss of function). Methotrexate is in a class of medications that are considered to be Disease Modifying Antirheumatic Drug (DMARD). Methotrexate may treat rheumatoid arthritis by decreasing the activity of the immune system.

Tested Gene(s): ABCB1, MTHFR, MTRR

### 24 : Buprenorphine

Buprenorphine (Norspan) is used to relieve severe pain in people who are expected to need pain medication around-the-clock for a long time and who cannot be treated with other medications. Buprenorphine in a class of medications called Opioid. It works by changing the way the brain and nervous system respond to pain.

Tested Gene(s): chr2:208494234

### 25 : Sulfasalazine

Sulfasalazine (Salazopyrin) is used to treat bowel inflammation, diarrhea (stool frequency), rectal bleeding, and abdominal pain in patients with ulcerative colitis, a condition in which the bowel is inflamed. Sulfasalazine is also used to treat rheumatoid arthritis. It works by reducing inflammation (swelling) inside the body.

Tested Gene(s): ABCG2

Your results suggest sulfasalazine should be used with caution. Common side effects of

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sulfasalazine include diarrhea, headache, loss of appetite, upset stomach and vomiting etc. Other pain medications might be considered as an alternative to sulfasalazine.

**SAMPLE REPORT**



## Medication Explanation

### Diabetes

#### 3 : Glipizide

Glipizide (Minidiab) is used along with diet and exercise, and sometimes with other medications, to treat type 2 diabetes (condition in which the body does not use insulin normally and, therefore, cannot control the amount of sugar in the blood). Glipizide is in a class of medications called Sulfonylurea (SU). Glipizide lowers blood sugar by causing the pancreas to produce insulin (a natural substance that is needed to break down sugar in the body) and helping the body use insulin efficiently.

Tested Gene(s): KCNJ11

Your results suggest glipizide should be used with caution. Common side effects of glipizide include feeling jittery, uncontrollable shaking of a part of the body and dizziness etc. Other blood glucose control medications might be considered as an alternative to glipizide.

#### 4 : Metformin

Metformin (Glucophage) is used to treat type 2 diabetes (condition in which the body does not use insulin normally and, therefore, cannot control the amount of sugar in the blood). Metformin is in a class of drugs called Biguanide. Metformin helps to control the amount of glucose (sugar) in your blood.

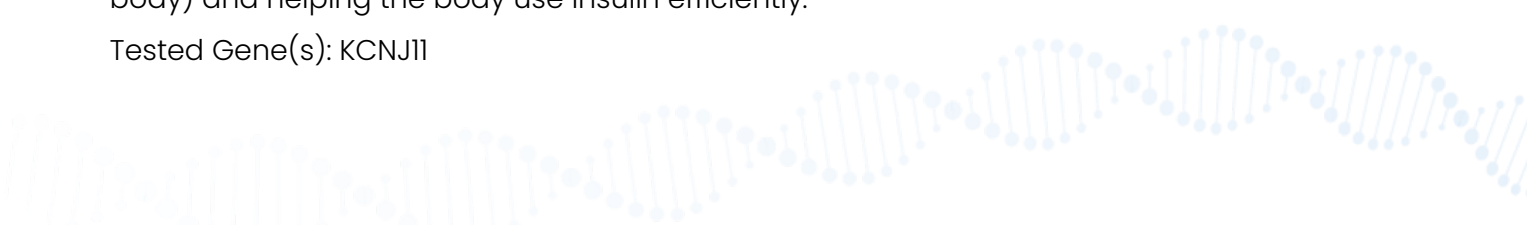
Tested Gene(s): ATM, SLC47A2

#### 6 : Gliclazide

Gliclazide (Diamicon) is used along with diet and exercise, and sometimes with other medications, to treat type 2 diabetes (condition in which the body does not use insulin normally and, therefore, cannot control the amount of sugar in the blood). Gliclazide is in a class of medications called Sulfonylurea (SU). Gliclazide lowers blood sugar by causing the pancreas to produce insulin (a natural substance that is needed to break down sugar in the body) and helping the body use insulin efficiently.

Tested Gene(s): KCNJ11

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Your results suggest gliclazide should be used with caution. Common side effects of gliclazide include feeling jittery, uncontrollable shaking of a part of the body and dizziness etc. Other blood glucose control medications might be considered as an alternative to gliclazide.

### 11 : Glimepiride

Glimepiride (Amaryl) is used along with diet and exercise, and sometimes with other medications, to treat type 2 diabetes (condition in which the body does not use insulin normally and, therefore, cannot control the amount of sugar in the blood). Glimepiride is in a class of medications called Sulfonylurea (SU). Glimepiride lowers blood sugar by causing the pancreas to produce insulin (a natural substance that is needed to break down sugar in the body) and helping the body use insulin efficiently.

Tested Gene(s): KCNJ11

### 13 : Repaglinide

Repaglinide (Novonorm) is used to treat type 2 diabetes (condition in which the body does not use insulin normally and, therefore, cannot control the amount of sugar in the blood). Repaglinide is in a class of medications called Meglitinide. Repaglinide helps your body regulate the amount of glucose (sugar) in your blood. It decreases the amount of glucose by stimulating the pancreas to release insulin.

Tested Gene(s): KCNJ11, SLC01B1

### 17 : Pioglitazone

Pioglitazone (Actos) is used to treat type 2 diabetes (condition in which the body does not use insulin normally and therefore cannot control the amount of sugar in the blood). Pioglitazone is in a class of medications called Thiazolidinedione (TZD). It works by increasing the body's sensitivity to insulin, a natural substance that helps control blood sugar levels.

Tested Gene(s): ADIPOQ

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## 19 : Glibenclamide

Glibenclamide (Daonil) is used along with diet and exercise, and sometimes with other medications, to treat type 2 diabetes (condition in which the body does not use insulin normally and, therefore, cannot control the amount of sugar in the blood). Glibenclamide is in a class of medications called Sulfonylurea (SU). Glibenclamide lowers blood sugar by causing the pancreas to produce insulin (a natural substance that is needed to break down sugar in the body) and helping the body use insulin efficiently.

Tested Gene(s): KCNJ11

Your results suggest glibenclamide should be used with caution. Common side effects of glibenclamide include feeling jittery, uncontrollable shaking of a part of the body and dizziness etc. Other blood glucose control medications might be considered as an alternative to glibenclamide.

**SAMPLE REPORT**

# Medication Explanation

## Geriatrics

### 2 : Levodopa

Levodopa is used to treat the symptoms of Parkinson's disease or Parkinson's-like symptoms. Parkinson's symptoms, including tremors (shaking), stiffness, and slowness of movement, are caused by a lack of dopamine, a natural substance usually found in the brain. Levodopa is in a class of medications called Dopamine Precursor. It works by being converted to dopamine in the brain.

Tested Gene(s): DBH, HOMER1

### 6 : Memantine

Memantine (Ebixa) is used to treat the symptoms of Alzheimer's disease (a brain disease that slowly destroys the memory and the ability to think, learn, communicate and handle daily activities). Memantine is in a class of medications called NMDA Antagonist. It works by decreasing abnormal activity in the brain.

Tested Gene(s): NRI2

### 11 : Entacapone

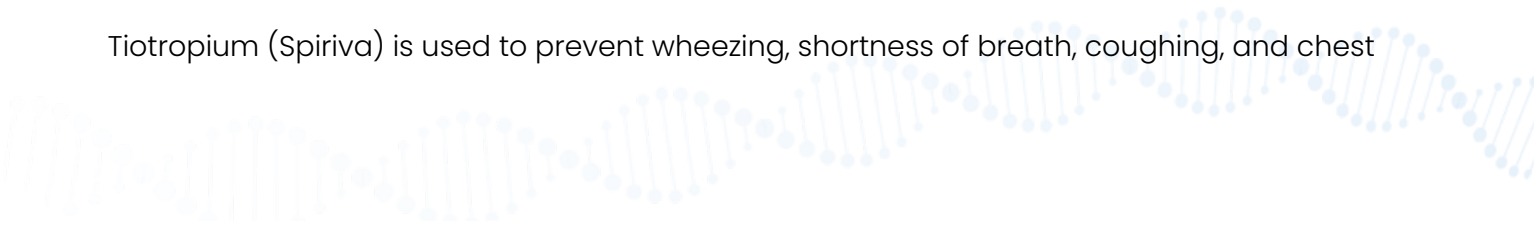
Entacapone (Comtan) is a Catechol-O-Methyltransferase (COMT) Inhibitor. It is used in combination with levodopa and carbidopa to treat Parkinson's disease. Entacapone helps levodopa and carbidopa work better by allowing more of it to reach the brain, where it has its effects.

Tested Gene(s): COMT

### 19 : Tiotropium

Tiotropium (Spiriva) is used to prevent wheezing, shortness of breath, coughing, and chest

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tightness in patients with chronic obstructive pulmonary disease (COPD, a group of diseases that affect the lungs and airways) such as chronic bronchitis (swelling of the air passages that lead to the lungs) and emphysema (damage to air sacs in the lungs). Tiotropium is in a class of medications called anticholinergic. It works by relaxing and opening the air passages to the lungs to make breathing easier.

Tested Gene(s): ADRB2

Your results suggest tiotropium should be used with caution. Common side effects of tiotropium include dry mouth, constipation, indigestion and painful white patches in mouth etc. Other medications for the treatment of COPD might be considered as an alternative to tiotropium.

### 23 : Pramipexole

Pramipexole (Mirapex) is used alone or with other medications to treat the symptoms of Parkinson's disease (a disorder of the nervous system that causes difficulties with movement, muscle control, and balance). Pramipexole is in a class of medications called Dopamine Agonist. It works by acting in place of dopamine, a natural substance in the brain that is needed to control movement.

Tested Gene(s): DRD3

Your results suggest pramipexole should be used with caution. Common side effects of pramipexole include abnormal body movements and motions, dizziness, constipation and abnormal thoughts or dreams etc. Other medications for the treatment of Parkinson's disease might be considered as an alternative to pramipexole.

### 30 : Rivastigmine

Rivastigmine (Exelon) is used to treat dementia (a brain disorder that affects the ability to remember, think clearly, communicate, and perform daily activities and may cause changes in mood and personality) in people with Alzheimer's disease (a brain disease that slowly destroys the memory and ability to think, learn, communicate and handle daily activities). Rivastigmine is in a class of medications called Acetylcholinesterase Inhibitor (AChEI). It improves mental function (such as memory and thinking) by increasing the amount of a certain natural substance in the brain.

Tested Gene(s): CHAT, CHRNA7

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Your results suggest rivastigmine should be used with caution. Common side effects of rivastigmine include weight loss, diarrhea, stomach pain, tremor and increased sweating etc. Other medications for the treatment of Alzheimer's disease might be considered as an alternative to rivastigmine.

**SAMPLE REPORT**



## Medication Explanation

### Paediatrics

#### 3 : Budesonide

Budesonide is used to prevent difficulty breathing, chest tightness, wheezing, and coughing caused by asthma. Budesonide for oral inhalation belongs to a class of medications called Inhaled Corticosteroid (ICS). It works by decreasing swelling and irritation in the airways to allow for easier breathing.

Tested Gene(s): CRHR1

#### 8 : Salbutamol

Salbutamol (Ventolin) is used to prevent and treat difficulty breathing, wheezing, shortness of breath, coughing, and chest tightness caused by lung diseases such as asthma and chronic obstructive pulmonary disease (COPD; a group of lung diseases that include chronic bronchitis and emphysema). Salbutamol is in a class of medications called Short Acting Beta Agonist (SABA). It works by relaxing and opening air passages to the lungs to make breathing easier.

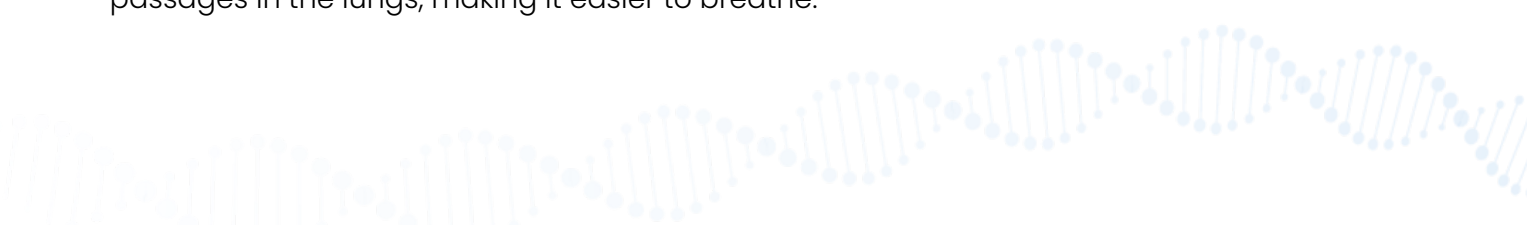
Tested Gene(s): ADRB2, COL22A1, CRHR2

Your results suggest salbutamol should be used with caution. Common side effects of salbutamol include nervousness, uncontrollable shaking of a part of the body, throat irritation and headache etc. Other asthma medications might be considered as an alternative to salbutamol.

#### 9 : Salmeterol

Salmeterol (Serevent) is used to treat wheezing, shortness of breath, coughing, and chest tightness caused by asthma and chronic obstructive pulmonary disease (COPD; a group of lung diseases that include chronic bronchitis and emphysema). Salmeterol is in a class of medications called Long Acting Beta Agonist (LABA). It works by relaxing and opening air passages in the lungs, making it easier to breathe.

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Tested Gene(s): ADRB2

### 11 : Fluticasone

Fluticasone is used to prevent difficulty breathing, chest tightness, wheezing, and coughing caused by asthma in adults and children 4 years of age and older. It is in a class of medications called Inhaled Corticosteroid (ICS). Fluticasone works by decreasing swelling and irritation in the airways to allow for easier breathing.

Tested Gene(s): CRHR1

### 12 : Montelukast

Montelukast (Singulair) is used to prevent wheezing, difficulty breathing, chest tightness, and coughing caused by asthma. Montelukast is also used to treat the symptoms of allergic rhinitis (a condition associated with sneezing and stuffy, runny or itchy nose). Montelukast is in a class of medications called Leukotriene Receptor Antagonist (LTRA). It works by blocking the action of substances in the body that cause the symptoms of asthma and allergic rhinitis.

Tested Gene(s): ALOX5

Your results suggest montelukast should be used with caution. Common side effects of montelukast include headache, heartburn, stomach pain, rash and tiredness etc. Other asthma medications might be considered as an alternative to montelukast.

### 25 : Phenobarbital

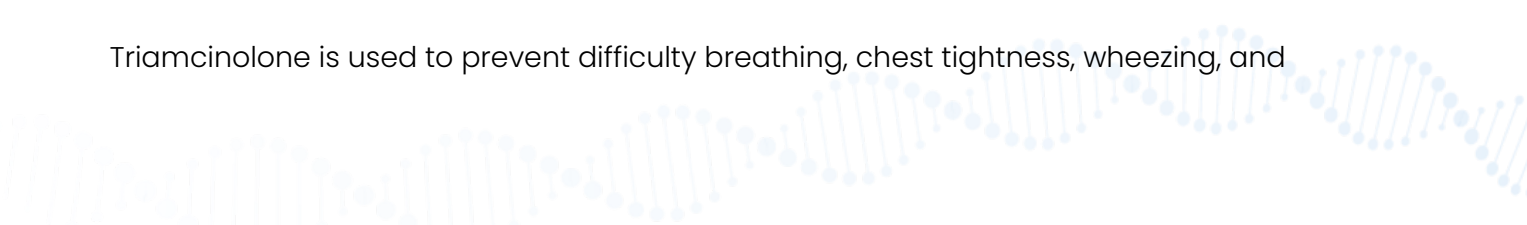
Phenobarbital is used to control seizures. Phenobarbital is in a class of medications called Barbiturate. It works by slowing activity in the brain.

Tested Gene(s): ABCB1

### 27 : Triamcinolone

Triamcinolone is used to prevent difficulty breathing, chest tightness, wheezing, and

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coughing caused by asthma in adults and children 4 years of age and older. It is in a class of medications called Inhaled Corticosteroid (ICS). Triamcinolone works by decreasing swelling and irritation in the airways to allow for easier breathing.

Tested Gene(s): CRHR1

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## Medication Explanation

### Psychiatric

#### 1 : Clobazam

Clobazam (Frisium) is used with other medication(s) to control seizures in adults and children 2 years of age and older. Clobazam is in a class of medications called Benzodiazepine (BZP). It works by decreasing abnormal electrical activity in the brain.

Tested Gene(s): CYP2C19

#### 2 : Diazepam

Diazepam is used to relieve anxiety, muscle spasms, and seizures and to control agitation caused by alcohol withdrawal. Diazepam is in a class of medications called Benzodiazepine (BZP). It works by calming abnormal overactivity in the brain.

Tested Gene(s): CYP2C19

#### 3 : Naloxone

Naloxone is used to reverse the life-threatening effects of opioid overdose. Naloxone is also used after surgery to reverse the effects of opioid given during surgery. Naloxone is in a class of medications called Opioid Antagonist. It works by blocking the effects of opioid to relieve dangerous symptoms caused by high levels of opioid in the blood.

Tested Gene(s): OPRM1

#### 4 : Bupropion

Bupropion (Wellbutrin) is used to treat depression and seasonal affective disorder (SAD; episodes of depression that occur at the same time each year [usually in the fall and winter but rarely may occur in the spring or summer months]). Bupropion is also used to help

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people stop smoking. Bupropion works by increasing certain types of activity in the brain.

Tested Gene(s): ANKK1, COMT

### 5 : Midazolam

Midazolam (Dormicum) is used before medical procedures or before anesthesia for surgery to cause drowsiness, relieve anxiety, and prevent any memory of the event. Midazolam is in a class of medications called Benzodiazepine (BZP). It works by slowing activity in the brain to allow relaxation and sleep.

Tested Gene(s): CYP3A4

### 6 : Citalopram

Citalopram (Cipram) is used to treat depression. Citalopram is in a class of antidepressants called Selective Serotonin Reuptake Inhibitors (SSRI). It is thought to work by increasing the amount of serotonin, a natural substance in the brain that helps maintain mental balance.

Tested Gene(s): CYP2C19

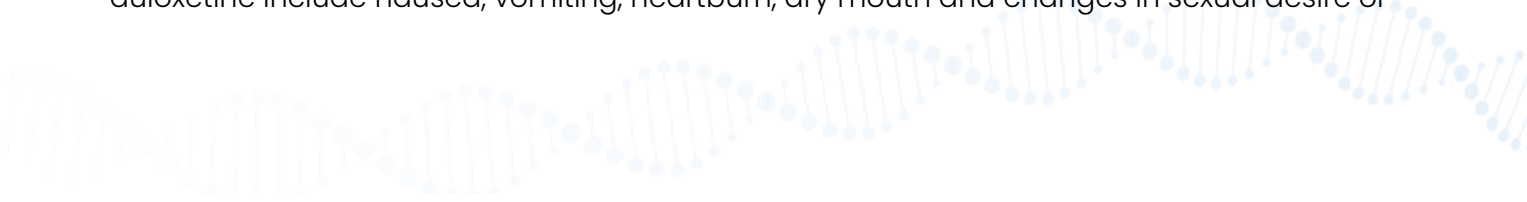
### 7 : Duloxetine

Duloxetine (Cymbalta) is used to treat depression and Generalized Anxiety Disorder (GAD; excessive worry and tension that disrupts daily life and lasts for 6 months or longer). Duloxetine is also used to treat pain and tingling caused by neuropathy (damage to nerves). Duloxetine is in a class of medications called Serotonin and Norepinephrine Reuptake Inhibitors (SNRI). It works by increasing the amounts of serotonin and norepinephrine, natural substances in the brain that help maintain mental balance and stop the movement of pain signals in the brain.

Tested Gene(s): DRD3

Your results suggest duloxetine should be used with caution. Common side effects of duloxetine include nausea, vomiting, heartburn, dry mouth and changes in sexual desire or

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ability etc. Other medications might be considered as an alternative to duloxetine.

### 8 : Naltrexone

Naltrexone is used to help people who have stopped drinking alcohol and using street drugs continue to avoid drinking or using drugs. Naltrexone is in a class of medications called Opioid Antagonist. It works by decreasing the craving for alcohol and blocking the effects of opioid medications and opioid street drugs.

Tested Gene(s): OPRM1

### 9 : Olanzapine

Olanzapine (Zyprexa) is used to treat the symptoms of schizophrenia (a mental illness that causes disturbed or unusual thinking, loss of interest in life, and strong or inappropriate emotions). It is also used to treat bipolar disorder (a disease that causes episodes of depression, episodes of mania, and other abnormal moods). Olanzapine is in a class of medications called Antipsychotic. It works by changing the activity of certain natural substances in the brain.

Tested Gene(s): DRD2

### 10 : Quetiapine

Quetiapine (Seroquel) is used to treat the symptoms of schizophrenia (a mental illness that causes disturbed or unusual thinking, loss of interest in life, and strong or inappropriate emotions) treat episodes of mania (frenzied, abnormally excited or irritated mood) or depression in patients with bipolar disorder (a disease that causes episodes of depression, episodes of mania, and other abnormal moods). Quetiapine is in a class of medications called Antipsychotic. It works by changing the activity of certain natural substances in the brain.

Tested Gene(s): CYP3A5, MC4R

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## 11 : Sertraline

Sertraline (Zoloft) is used to treat depression and panic attacks (sudden, unexpected attacks of extreme fear and worry about these attacks). Sertraline is in a class of antidepressants called Selective Serotonin Reuptake Inhibitor (SSRI). It works by increasing the amounts of serotonin, a natural substance in the brain that helps maintain mental balance.

Tested Gene(s): CYP2C19

## 12 : Amisulpride

Amisulpride (Solian) is used to treat schizophrenia symptoms (a mental illness that causes disturbed or unusual thinking, loss of interest in life, and strong or inappropriate emotions). Amisulpride is a member of the Antipsychotic drug class. It works by altering the action of a number of naturally occurring chemicals in the brain.

Tested Gene(s): MC4R

## 13 : Moclobemide

Moclobemide (Aurorix) is used to treat depression in people who have not been helped by other medications. Moclobemide is in a class of medications called Monoamine Oxidase Inhibitor (MAOI). It works by increasing the amounts of certain natural substances that are needed to maintain mental balance.

Tested Gene(s): CYP2C19

## 14 : Ziprasidone

Ziprasidone (Zeldox) is used to treat the symptoms of schizophrenia (a mental illness that causes disturbed or unusual thinking, loss of interest in life, and strong or inappropriate emotions). Ziprasidone is in a class of medications called Antipsychotic. It works by changing the activity of certain natural substances in the brain.

Tested Gene(s): MC4R

### 15 : Aripiprazole

Aripiprazole (Abilify) is used to treat the symptoms of schizophrenia (a mental illness that causes disturbed or unusual thinking, loss of interest in life, and strong or inappropriate emotions). It is also used to treat bipolar disorder (a disease that causes episodes of depression, episodes of mania, and other abnormal moods). Aripiprazole is in a class of medications called Antipsychotic. It works by changing the activity of certain natural substances in the brain.

Tested Gene(s): DRD2, MC4R

### 16 : Escitalopram

Escitalopram (Lexapro) is used to treat depression and Generalized Anxiety Disorder (GAD; excessive worry and tension that disrupts daily life and lasts for 6 months or longer). Escitalopram is in a class of antidepressants called Selective Serotonin Reuptake Inhibitor (SSRI). It works by increasing the amount of serotonin, a natural substance in the brain that helps maintain mental balance.

Tested Gene(s): CYP2C19, HTR2A

### 17 : Paliperidone

Paliperidone (Invega) is used to treat the symptoms of schizophrenia (a mental illness that causes disturbed or unusual thinking, loss of interest in life, and strong or inappropriate emotions). Paliperidone is in a class of medications called Antipsychotic. It works by changing the activity of certain natural substances in the brain.

Tested Gene(s): MC4R

### 18 : Valproic acid



alproic acid (Epilim) is used to treat certain types of seizures. Valproic acid is also used to treat mania (episodes of frenzied, abnormally excited mood). Valproic acid is in a class of medications called Anticonvulsant. It works by increasing the amount of a certain natural substance in the brain.

Tested Gene(s): ABCB1, ANKK1, POLG

### 19 : Chlorpromazine

Chlorpromazine is used to treat the symptoms of schizophrenia (a mental illness characterized by disturbed or unusual thinking, loss of interest in life, and strong or inappropriate emotions) and other psychotic disorders (conditions characterized by difficulty telling the difference between real and unreal things or ideas), as well as the symptoms of mania (frenzied, abnormally excited mood) in people with bipolar disorder (manic depressive disorder; a condition that causes episodes of mania, episodes of depression, and other abnormal moods). Chlorpromazine is a member of the Antipsychotic drug class. It works by altering the action of a number of naturally occurring chemicals in the brain and other parts of the body.

Tested Gene(s): DRD2

### 20 : Methylphenidate

Methylphenidate (Ritalin) is used to control symptoms of Attention Deficit Hyperactivity Disorder (ADHD; more difficulty focusing, controlling actions, and remaining still or quiet than other people who are the same age) in adults and children. Methylphenidate is in a class of medications called Stimulant. It works by changing the amounts of certain natural substances in the brain.

Tested Gene(s): CES1, DRD1



# Medication Explanation

## Cardiovascular

### 1 : Digoxin

Digoxin (Lanoxin) is used to treat heart failure and abnormal heart rhythms (arrhythmias). Digoxin is an Antiarrhythmic that helps the heart work better and helps control your heart rate.

Tested Gene(s): ABCB1

### 2 : Atenolol

Atenolol is used alone or in combination with other medications to treat high blood pressure. It is also used to prevent angina (chest pain) and improve survival after a heart attack. Atenolol is in a class of medications called Beta Blocker. It works by relaxing blood vessels and slowing heart rate to improve blood flow and decrease blood pressure.

Tested Gene(s): ADRA2A

### 3 : Losartan

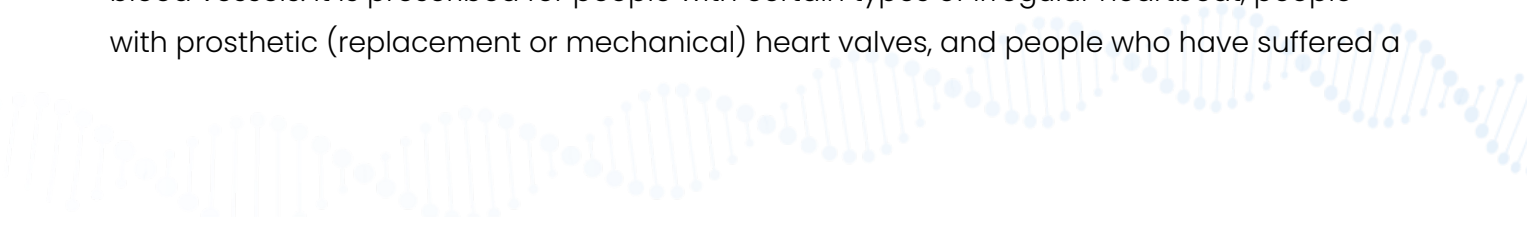
Losartan (Cozaar) is used to treat high blood pressure and treat kidney disease. Losartan is in a class of medications called Angiotensin II Receptor Blocker (ARB). It works by blocking the action of certain natural substances that tighten the blood vessels, allowing the blood to flow more smoothly and the heart to pump more efficiently.

Tested Gene(s): CYP2C9

### 4 : Warfarin

Warfarin is used to prevent blood clots from forming or growing larger in your blood and blood vessels. It is prescribed for people with certain types of irregular heartbeat, people with prosthetic (replacement or mechanical) heart valves, and people who have suffered a

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heart attack. Warfarin is also used to treat or prevent venous thrombosis (swelling and blood clot in a vein) and pulmonary embolism (a blood clot in the lung). Warfarin is in a class of medications called Anticoagulant ('blood thinners'). It works by decreasing the clotting ability of the blood.

Tested Gene(s): CYP2C9, VKORC1

Your results suggest warfarin might be used at a lower dose to avoid potential side effects. Major side effects of warfarin include bleeding. Please note that genetic is not the only factor that determines warfarin starting dose. Thus, other clinical factors and monitoring with international normalized ratio (INR) may need to be taken into consideration when deciding the correct dose of warfarin.

### 5 : Enalapril

Enalapril (Renitec) is used alone or in combination with other medications to treat high blood pressure. It is also used in combination with other medications to treat heart failure. Enalapril is in a class of medications called Angiotensin Converting Enzyme Inhibitor (ACEI). It works by decreasing certain chemicals that tighten the blood vessels, so blood flows more smoothly and the heart can pump blood more efficiently.

Tested Gene(s): ADRB2, CES1, SLCO1B1

### 6 : Prasugrel

Prasugrel (Effient) is used to prevent serious or life-threatening problems with the heart and blood vessels in people who have had a heart attack or severe chest pain and have been treated with angioplasty (procedure to open the blood vessels that supply blood to the heart). Prasugrel is in a class of medications called Antiplatelet. It works by preventing platelets (a type of blood cell) from collecting and forming clots that may cause a heart attack or stroke.

Tested Gene(s): CYP2C19

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### 7 : Valsartan

Valsartan (Diovan) is used to treat high blood pressure. Valsartan is in a class of medications called Angiotensin II Receptor Blocker (ARB). It works by blocking the action of certain natural substances that tighten the blood vessels, allowing the blood to flow more smoothly and the heart to pump more efficiently.

Tested Gene(s): SLCO1B1

### 8 : Verapamil

Verapamil (Isoptin) is used to treat high blood pressure and to control angina (chest pain). It is also used to prevent and treat irregular heartbeats. Verapamil is in a class of medications called Calcium-Channel Blocker (CCB). It works by relaxing the blood vessels so the heart does not have to pump as hard. It also increases the supply of blood and oxygen to the heart and slows electrical activity in the heart to control the heart rate.

Tested Gene(s): ABCB1

Your results suggest verapamil might be used at a lower dose to avoid potential side effects. Common side effects of verapamil include constipation, heartburn, dizziness, headache and swelling of the hands, feet, ankles, or lower legs etc.

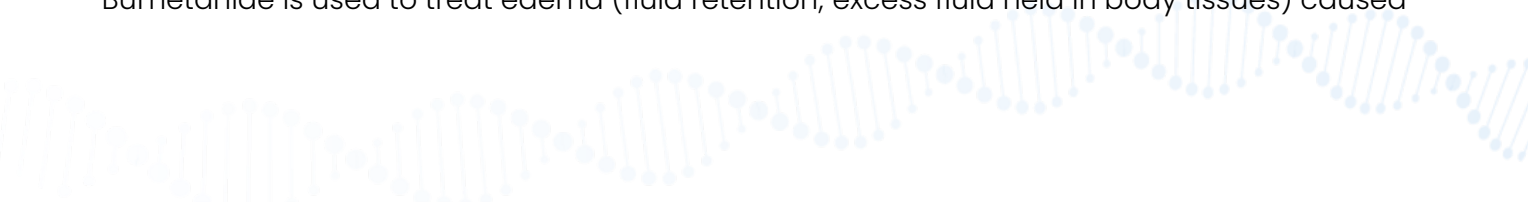
### 9 : Amlodipine

Amlodipine (Norvasc) is used alone or in combination with other medications to treat high blood pressure and angina (chest pain). Amlodipine is in a class of medications called Calcium Channel Blocker (CCB). It lowers blood pressure by relaxing the blood vessels so the heart does not have to pump as hard. It controls chest pain by increasing the supply of blood to the heart.

Tested Gene(s): CYP3A4

### 10 : Bumetanide

Bumetanide is used to treat edema (fluid retention; excess fluid held in body tissues) caused





by various medical problems, including heart, kidney, and liver disease. Bumetanide is in a class of medications called Diuretic. It works by causing the kidneys to get rid of unneeded water and salt from the body into the urine.

Tested Gene(s): GNB3

### 11 : Carvedilol

Carvedilol (Dilatrend) is used to treat heart failure (condition in which the heart cannot pump enough blood to all parts of the body) and high blood pressure. It also is used to treat people who have had a heart attack. Carvedilol is often used in combination with other medications. Carvedilol is in a class of medications called Beta Blocker. It works by relaxing blood vessels and slowing heart rate to improve blood flow and decrease blood pressure.

Tested Gene(s): ADRB2

### 12 : Furosemide

Furosemide (Lasix) is used to treat edema (fluid retention; excess fluid held in body tissues). Furosemide is in a class of medications called Diuretic. It works by causing the kidneys to get rid of unneeded water and salt from the body into the urine.

Tested Gene(s): GNB3

### 13 : Lovastatin

Lovastatin is used to decrease the amount of fatty substances such as low-density lipoprotein (LDL) cholesterol ('bad cholesterol') and triglycerides in the blood and to increase the amount of high-density lipoprotein (HDL) cholesterol ('good cholesterol') in the blood. Lovastatin is in a class of medications called Statin. It works by slowing the production of cholesterol in the body to decrease the amount of cholesterol that may build up on the walls of the arteries and block blood flow to the heart, brain, and other parts of the body.

Tested Gene(s): CYP3A5, HMGCR, SLCO1B1



#### 14 : Olmesartan

Olmesartan (Olmetec) is used to treat high blood pressure. Olmesartan is in a class of medications called Angiotensin II Receptor Blocker (ARB). It works by blocking the action of certain natural substances that tighten the blood vessels, allowing the blood to flow more smoothly and the heart to pump more efficiently.

Tested Gene(s): SLCO1B1

#### 15 : Ticagrelor

Ticagrelor (Brilinta) is used to prevent serious or life-threatening problems with the heart and blood vessels in people who have had a heart attack or severe chest pain. Ticagrelor is in a class of medications called Antiplatelet. It works by preventing platelets (a type of blood cell) from collecting and forming clots that may cause a heart attack or stroke.

Tested Gene(s): SLCO1B1

#### 16 : Clopidogrel

Clopidogrel (Plavix) is a commonly used blood thinner for the prevention of serious or life-threatening problems with the heart and blood vessels in people who have had a stroke, heart attack, or severe chest pain. Clopidogrel is in a class of medications called Antiplatelet. It works by preventing platelets (a type of blood cell) from collecting and forming clots that may cause a heart attack or stroke.

Tested Gene(s): ABCB1, CES1, CYP2C19, CYP2C9

Your results suggest clopidogrel should be used with caution. Common side effects of clopidogrel include excessive tiredness, headache, dizziness, nausea and vomiting etc. Other antiplatelet medications such as prasugrel or ticagrelor might be considered as an alternative to clopidogrel. If prasugrel or ticagrelor is not otherwise contraindicated, it may be used at standard starting dose.

#### 17 : Fenofibrate

Fenofibrate (Lipanthyl) is used to reduce the amounts of fatty substances such as cholesterol and triglycerides in the blood and to increase the amount of HDL (high-density lipoprotein; a type of fatty substance that decreases the risk of heart disease) in the blood. Fenofibrate is in a class of medications called Fibrate. It works by speeding the natural processes that remove cholesterol from the body.

Tested Gene(s): PPARA

### 18 : Fluvastatin

Fluvastatin (Lescol) is used to decrease the amount of fatty substances such as low-density lipoprotein (LDL) cholesterol ('bad cholesterol') and triglycerides in the blood and to increase the amount of high-density lipoprotein (HDL) cholesterol ('good cholesterol') in the blood. Fluvastatin is in a class of medications called Statin. It works by slowing the production of cholesterol in the body to decrease the amount of cholesterol that may build up on the walls of the arteries and block blood flow to the heart, brain, and other parts of the body.

Tested Gene(s): ABCG2, CYP2C9, HMGCR

### 19 : Hydralazine

Hydralazine (Alphapress) is used to treat high blood pressure. It works by relaxing the blood vessels so that blood can flow more easily through the body.

Tested Gene(s): GNB3

Your results suggest hydralazine should be used with caution. Common side effects of hydralazine include flushing, headache and upset stomach etc. Other cardiovascular medications might be considered as an alternative to hydralazine.

### 20 : Pravastatin

Pravastatin is used to decrease the amount of fatty substances such as low-density lipoprotein (LDL) cholesterol ('bad cholesterol') and triglycerides in the blood and to increase the amount of high-density lipoprotein (HDL) cholesterol ('good cholesterol') in the blood. Pravastatin is in a class of medications called Statin. It works by slowing the production of

cholesterol in the body to decrease the amount of cholesterol that may build up on the walls of the arteries and block blood flow to the heart, brain, and other parts of the body.

Tested Gene(s): ABCB1, ADAMTS1, APOE, HMGCR, MTHFR, SLCO1B1

### 21 : Simvastatin

Simvastatin (Zocor) is used to decrease the amount of fatty substances such as low-density lipoprotein (LDL) cholesterol ('bad cholesterol') and triglycerides in the blood and to increase the amount of high-density lipoprotein (HDL) cholesterol ('good cholesterol') in the blood. Simvastatin is in a class of medications called Statin. It works by slowing the production of cholesterol in the body to decrease the amount of cholesterol that may build up on the walls of the arteries and block blood flow to the heart, brain, and other parts of the body.

Tested Gene(s): SLCO1B1

### 22 : Telmisartan

Telmisartan

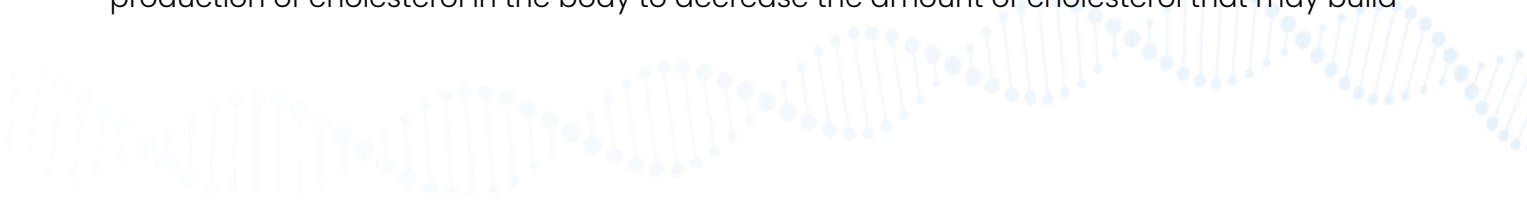
Telmisartan (Micardis) is used to treat high blood pressure. Telmisartan is in a class of medications called Angiotensin II Receptor Blocker (ARB). It works by blocking the action of certain natural substances that tighten the blood vessels, allowing the blood to flow more smoothly and the heart to pump more efficiently.

Tested Gene(s): GNB3

### 23 : Atorvastatin

Atorvastatin (Lipitor) is used to decrease the amount of fatty substances such as low-density lipoprotein (LDL) cholesterol ('bad cholesterol') and triglycerides in the blood and to increase the amount of high-density lipoprotein (HDL) cholesterol ('good cholesterol') in the blood. Atorvastatin is in a class of medications called Statin. It works by slowing the production of cholesterol in the body to decrease the amount of cholesterol that may build

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up on the walls of the arteries and block blood flow to the heart, brain, and other parts of the body.

Tested Gene(s): APOE, COQ2, CYP3A5, SLCO1B1

#### 24 : Rosuvastatin

Rosuvastatin (Crestor) is used to decrease the amount of fatty substances such as low-density lipoprotein (LDL) cholesterol ('bad cholesterol') and triglycerides in the blood and to increase the amount of high-density lipoprotein (HDL) cholesterol ('good cholesterol') in the blood. Rosuvastatin is in a class of medications called Statin. It works by slowing the production of cholesterol in the body to decrease the amount of cholesterol that may build up on the walls of the arteries and block blood flow to the heart, brain, and other parts of the body.

Tested Gene(s): ABCG2, COQ2, SLCO1B1

#### 25 : Hydrochlorothiazide

Hydrochlorothiazide is used to treat high blood pressure or edema (fluid retention; excess fluid held in body tissues). Hydrochlorothiazide is in a class of medications called Diuretic, also known as 'water pill'. It works by causing the kidneys to get rid of unneeded water and salt from the body into the urine.

Tested Gene(s): NEDD4L, PRKCA

#### 26 : Isosorbide mononitrate

Isosorbide mononitrate is used for the management of chest pain in people who have coronary artery disease. Isosorbide mononitrate is in a class of medications called Nitrate. It works by relaxing the blood vessels so the heart does not need to work as hard and therefore does not need as much oxygen.

Tested Gene(s): GNB3

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Your results suggest isosorbide mononitrate should be used with caution. Common side effects of isosorbide mononitrate include nausea, rash and itching etc. Other cardiovascular medications might be considered as an alternative to isosorbide mononitrate.

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## Medication Explanation

### Commonly Prescribed Drugs

#### 8 : Daptomycin

Daptomycin (Cubicin) is used alone or in combination with other medications to treat certain infections caused by bacteria. Daptomycin is in an Antimicrobial. It works by killing bacteria.

Tested Gene(s): ABCB1

#### 12 : Omeprazole

Omeprazole (Losec) is used to treat Gastroesophageal Reflux Disease (GERD), a condition in which backward flow of acid from the stomach causes heartburn and possible injury of the esophagus (the tube between the throat and stomach). Omeprazole is also used to treat ulcers (sores in the lining of the stomach or intestine) and it is also used with other medications to treat ulcers caused by a certain type of bacteria (*H. pylori*). Omeprazole is in a class of medications called Proton Pump Inhibitor (PPI). It works by decreasing the amount of acid made in the stomach.

Tested Gene(s): CYP2C19

#### 13 : Sildenafil

#### 14 : Alendronate

Alendronate (Fosamax) is used to treat and prevent osteoporosis (a condition in which the bones become thin and weak and break easily). Alendronate is in a class of medications called Bisphosphonate. It works by preventing bone breakdown and increasing bone density (thickness).

Tested Gene(s): FDPS

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Your results suggest alendronate should be used with caution. Common side effects of alendronate include bloating, fullness or pain in stomach, nausea, constipation, diarrhea and difficulty or pain on swallowing etc. Other medications for the treatment of osteoporosis might be considered as an alternative to alendronate

### 19 : Rabeprazole

Rabeprazole (Pariet) is used to treat Gastroesophageal Reflux Disease (GERD), a condition in which backward flow of acid from the stomach causes heartburn and possible injury of the esophagus (the tube that connects the throat and stomach). Rabeprazole is used to treat ulcers (sores in the lining of the stomach or intestine) and is used in combination with other medications to eliminate *H. pylori*, a bacteria that causes ulcers. Rabeprazole is in a class of medications called Proton Pump Inhibitor (PPI). It works by decreasing the amount of acid made in the stomach.

Tested Gene(s): CYP2C19

### 20 : Risedronate

Risedronate (Actonel) is used to prevent and treat osteoporosis (a condition in which the bones become thin and weak and break easily). Risedronate is in a class of medications called Bisphosphonate. It works by preventing bone breakdown and increasing bone density (thickness).

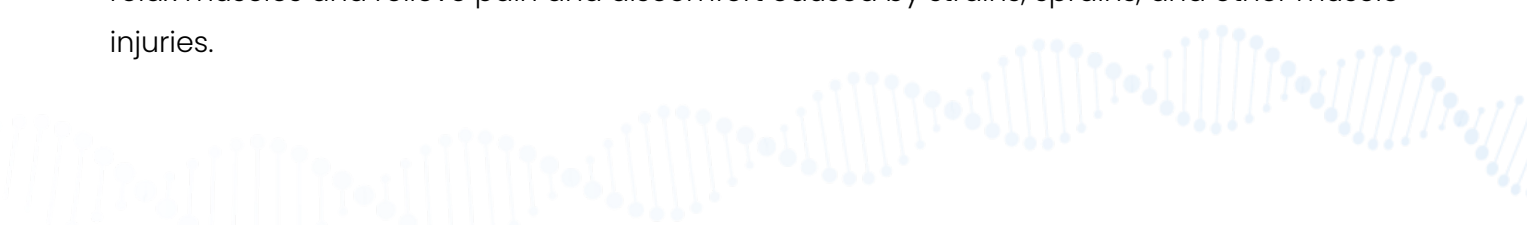
Tested Gene(s): FDPS

Your results suggest risedronate should be used with caution. Common side effects of risedronate include headache, leg cramps, rash, heartburn, poor healing of the jaw etc. Other medications for the treatment of osteoporosis might be considered as an alternative to risedronate.

### 23 : Carisoprodol

Carisoprodol, a muscle relaxant, is used with rest, physical therapy, and other measures to relax muscles and relieve pain and discomfort caused by strains, sprains, and other muscle injuries.

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Tested Gene(s): CYP2C19

#### 24 : Erythromycin

Erythromycin is used to treat certain infections caused by bacteria. Erythromycin is in a class of medications called Antimicrobial. It works by stopping the growth of bacteria.

Tested Gene(s): CYP3A4

#### 25 : Esomeprazole

Esomeprazole (Nexium) is used to treat Gastroesophageal Reflux Disease (GERD), a condition in which backward flow of acid from the stomach causes heartburn and possible injury of the esophagus (the tube between the throat and stomach). Esomeprazole is also used to decrease the chance that people who are taking Nonsteroidal Anti-Inflammatory Drug (NSAID) in developing ulcers (sores in the lining of the stomach or intestine). Additionally, it is used with other medications to treat and prevent the return of stomach ulcers caused by a certain type of bacteria (*H. pylori*). Esomeprazole is in a class of medications called Proton Pump Inhibitor (PPI). It works by decreasing the amount of acid made in the stomach.

Tested Gene(s): CYP2C19

#### 26 : Fexofenadine

Fexofenadine (Telfast) is used to relieve the allergy symptoms of seasonal allergic rhinitis ("hay fever"), including runny nose, sneezing; red, itchy, or watery eyes; or itching of the nose, throat, or roof of the mouth in adults and children 2 years of age and older. It is also used to relieve symptoms of urticaria (hives; red, itchy raised areas of the skin), including itching and rash in adults and children 6 months of age and older. Fexofenadine is in a class of medications called Antihistamine. It works by blocking the effects of histamine, a substance in the body that causes allergy symptoms.

Tested Gene(s): ABCB1

### 29 : Lansoprazole

Lansoprazole (Takepron) is used to treat Gastroesophageal Reflux Disease (GERD), a condition in which backward flow of acid from the stomach causes heartburn and possible injury of the esophagus (the tube between the throat and stomach). Lansoprazole is also used to treat ulcers (sores in the lining of the stomach or intestine), to prevent more ulcers from developing in people whose ulcers have already healed, and to decrease the risk that people who are taking Nonsteroidal Anti-Inflammatory Drug (NSAID) will develop ulcers. Lansoprazole is in a class of medications called Proton Pump Inhibitor (PPI). It works by decreasing the amount of acid made in the stomach.

Tested Gene(s): CYP2C19

### 31 : Pantoprazole

Pantoprazole (Pantoloc) is used to treat Gastroesophageal Reflux Disease (GERD), a condition in which backward flow of acid from the stomach causes heartburn and possible injury of the esophagus (the tube between the throat and stomach). Pantoprazole is in a class of medications called Proton Pump Inhibitor (PPI). It works by decreasing the amount of acid made in the stomach.

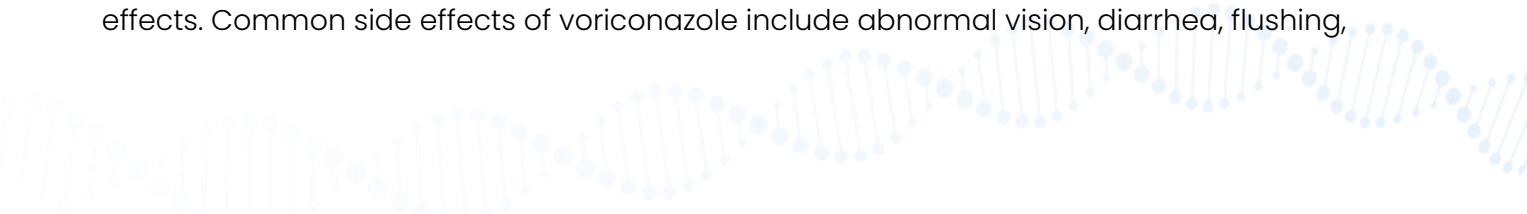
Tested Gene(s): CYP2C19

### 33 : Voriconazole

Voriconazole (Vfend) is used to treat fungal infections. Voriconazole is in a class of medications called Antimicrobial. It works by slowing the growth of the fungi that cause infection.

Tested Gene(s): CYP2C19

Your results suggest voriconazole might be used at a lower dose to avoid potential side effects. Common side effects of voriconazole include abnormal vision, diarrhea, flushing,



and rash etc.

#### 34 : Dicloxacillin

Dicloxacillin is a penicillin-like antibiotic used to treat certain infections caused by bacteria such as pneumonia and bone, ear, skin, and urinary tract infections. Dicloxacillin is an Antimicrobial. It works by killing bacteria.

Tested Gene(s): ABCB1

#### 36 : Phenylephrine

Phenylephrine is used to relieve nasal discomfort caused by colds, allergies and hay fever. It is also used to relieve sinus congestion and pressure. Phenylephrine will relieve symptoms but will not treat the cause of the symptoms or speed recovery. It works by reducing swelling of the blood vessels in the nasal passages.

Tested Gene(s): ADRB2

#### 38 : Dexlansoprazole

Dexlansoprazole (Dexilant) is used to treat Gastroesophageal Reflux Disease (GERD), a condition in which backward flow of acid from the stomach causes heartburn and possible injury of the esophagus (the tube between the throat and stomach). Dexlansoprazole is in a class of medications called Proton Pump Inhibitor (PPI). It works by decreasing the amount of acid made in the stomach.

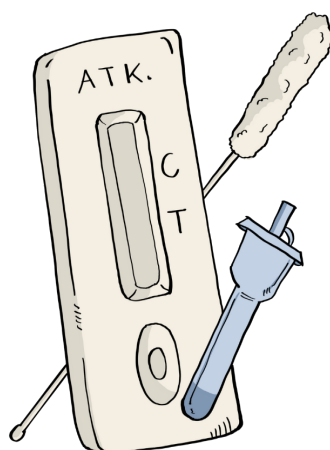
Tested Gene(s): CYP2C19

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# Covid

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## Covid

## Covid

### Covid Severity

#### Explanation:

COVID-19 infection can cause severe illness, especially respiratory failure, by inflammatory lung injury mediated by the host immune system.

Many medical research centers have found that variants within genes involved in our immune pathway have been associated with disease severity since 2021.

However, new medical research had to be evaluated and needed more robust evidence in clinical trials before being used to guide clinical practice.

Our test kit will search for 21 genes that may predict disease severity in individuals.

According to the result, your genetic susceptibility to disease severity is possibly average.

#### Recommendations:

Regardless of any COVID-19 severity from this test, you should take care of yourself carefully, wear a face mask, and wash your hands as often as possible to prevent the infection. It is still a new disease, and we do not have enough medical data, especially on long-term complications and long Covid that may be affected our health in the future.

If you have a COVID-19 infection, please follow the COVID-19 guidelines and your healthcare provider's advice; constantly update information from reliable sources.

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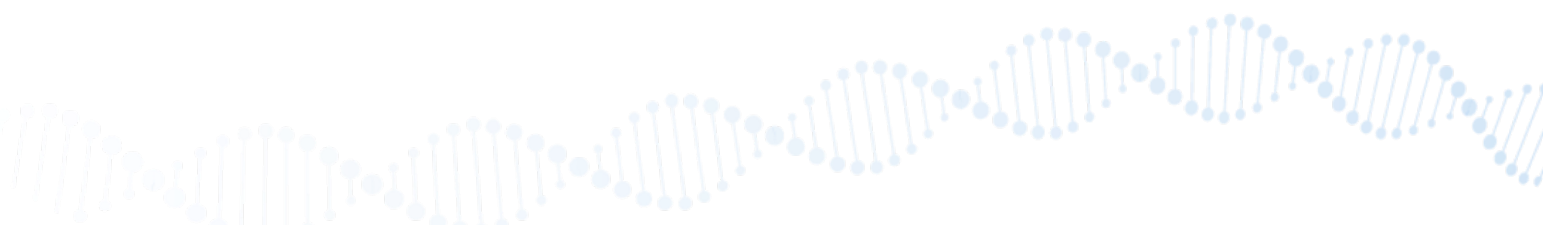




**Detected Genes:**

FUT2, RGMA, TYK2, CRHR1, EFNA1, THBS3, ATP11A, IL10RB, LZTFL1, SLC6A20, SLC22A31

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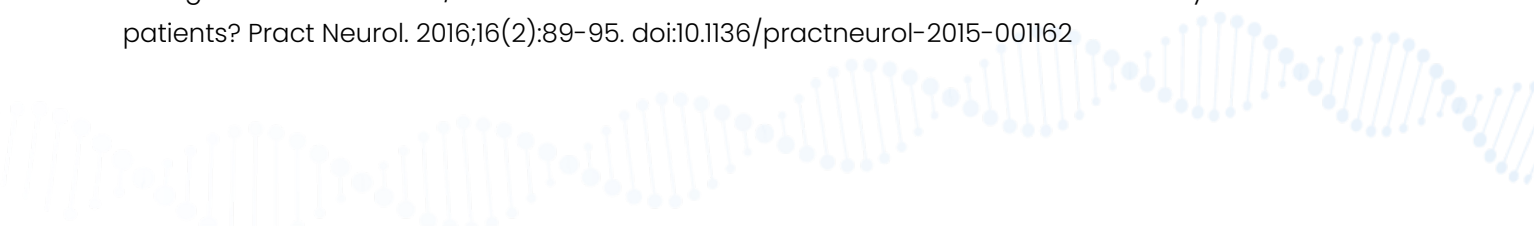




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