Obesity

Moderate: Likely moderate genetic risk for Obesity

Obesity is a condition in which there is excessive body fat, increasing the risk for various metabolic conditions. Obesity is generally measured using the body mass index (BMI), which is obtained by dividing the weight of a person (in Kg) by the square of the person's height in meters. A person with a BMI over 30 kg/m^2 is considered obese while a BMI between 25–30 kg/m^2 is defined as being overweight. People of certain genetic types are at a higher risk of being obese and should watch out for symptoms like breathlessness, inability to cope with physical activity, fatigue, joint and back pain and poor self-confidence.

- Gene markers analyzed: 434
- Gene markers present in your raw data: 322
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Exercise regularly- 74% of people with a European ancestry have a variation in the FTO gene associated with an increased risk for obesity. Exercise can greatly lower the effect of this gene to about a third.
- Eat a healthy breakfast: A U.S Health and Nutrition Survey found that men who ate a good breakfast weighed 2.7 kilograms less than men who skipped their breakfast.
- Eat high fibre foods: High fibre foods have fewer calories, are low in fat and have plenty of roughage which can keep you feeling full longer.
- Eat green leafy vegetables and plant based food: Studies have shown that people who ate a vegetarian diet weighed 3 to 20% less than meat eaters.
- Choose your diet wisely: Studies have shown that people on a high protein diet which is also rich in slow burning carbohydrate food sources like fruits, vegetables, whole pasta and beans, feel more satiated and lose more weight than people on other diets.

Genes Analyzed:

UCP3
MC4R
ARL14EP

LEPR

KCNMA1

OR52K1 - OR52M2P

LOC107986820 - LOC101927525

NOX4

RLN3

LOC105373354

RPL36AP5 - UBR2

SNRPN

ECE1

CYB5AP4 - LOC107985449

RHPN2

RAB35 - GCN1L1

DPYSL5

ASCL2 - C11orf21

MBOAT1

LDHAL6CP - RSL24D1P5

LOC105369575 - LOC105369576

ANKAR

LOC105376412, LOC105376413

CD93 - LINC00656

LOC101927460, LOC105379160

DDX60L

RPS23P3 - LOC105377262

LOC100505664 - LOC105372572

ARHGEF10L

ENPP1 - CTGF

CD46

ECT2

LOC105372221 - LOC105372224

LOC100420897 - MRPS36P5

CDHR3

ANKRD16

PLEKHG1

LOC102723654

UMAD1

LOC101927284

UNC5C

NTM

LOC105373523 - LOC100287010

RPL9P19 - GAPDHP68

LOC105372088

LOC100506457

KCNIP4 - RNU6-420P

CALM2P1 - LOC105371884

LOC105370982

LOC105379082 - LDHBP3

LOC105372155

RHOT1

LOC105369787 - LOC101060021

IFNGR2

ARL2BPP6 - DRD1

RASSF10 - LOC105376558

LOC107985167

LINC01258

CDH4

STON2

LOC102724210

ISCA2P1 - MIAT

LOC107986178

SPINK1 - C5orf46

SPAG16

CA8

LOC105370397, LOC107984671

ACMSD

LOC105375144, NXPH1

UNC13A

LOC101928100

LOC102723834

LPP

BICC1

LOC105376583 - HTATIP2

LOC105369949

CMKLR1 - LINC01498

TACC2

RSU1

METTL15

AUTS2

SMYD3

LOC101060084 - HPRT1P3

LOC101928635, LIPC

LOC100288703 - TRIM67

PBX4

LOC105375522 - MTPN

MYO3A

LOC107985581 - MIR3201

MTMR7 - ADAM24P

LOC107985126

MIR548G - RPL31P26

TENM3

LOC107985933

TRA

LOC105370076 - LOC100190940

KCTD15 - RN7SL150P

DLC1

FLJ33534

MALRD1

LACE1 - FOXO3

SIPA1L1

TTC8 - LOC105370615

CSMD1

LIPG - LOC105372112

TCFL5

TRAPPC9

MACROD2

HECW1, HECW1-IT1

GSG1L

NMNAT2

WDPCP

COX15, CUTC

ZBTB46

TPTE2P1

DIRC1 - LOC105373791

HDAC9

CLTB - FAF2

WDR11-AS1

PDE4D

LOC105370324

LHPP

TGFA, TGFA-IT1

GCH1

GMDS

SLIT1

LINC01500

RBFOX1

LOC150935 - NDUFA10

CAMK2A

PAK7

CUL9

COLEC12

LOC105372047

RYR2

ACTL8 - LOC105376809

ALLC

DPP10, DPP10-AS3

HSP90AA5P - LOC105374249

PKNOX2

LOC105378182 - TMEM30B

AATK

ZNF521 - RN7SL97P

GPC5

TUBGCP6

RGS7

ARHGAP24

ANLN - AOAH

PTPRN2

C8orf34

LOC100132056 - LOC442225

FAS - MIR4679-2

ISG20 - LOC105370960

MYO15A

JDP2

IFI16

KIF6

SPOCK3

KCNK5 - KCNK17

KLHL31

LOC101927437, CLYBL

POM121L13P - MTUS2

PPIAP24 - LOC105370350

EEPD1

CCDC33

LOC101928599 - LOC105370600

RAMP1 - LOC105373960

LOC284395

INADL

LOC101928705 - LOC105369711

TMEM45B

LOC105369874 - LOC107984536

RPS3AP5 - LOC105378400

LOC643381 - CNTN5

LOC105377563 - LOC105377564

CDH2

SERPINA12

RANP6 - LOC107986203

NPM2

LINC01162 - RN7SL542P

LOC105369474 - GUCY1A2

LOC101927216

LOC105375849

LOC105376349 - LOC105376351

DEFB127 - DEFB128

ODF3B - LOC102724608

SGCD

LOC100270647 - MARK2P5

EVA1A

LOC101927888 - LOC107986560

LOC105376403 - LOC101928298

LOC105369545

LOC105371884

LOC105376468

IRX2

CYP2E1

RAB17

EEF1DP6 - LOC284661

LOC101927947

LOC105370210 - LINC00558

ADH5P2 - LOC553139

RNU6-983P - LOC107985458

CDK5R2 - LINC00608

LOC100131348 - LOC100129138

LOC101927078

MBNL2 - RAP2A

LOC105379237 - RP1L1

VDAC1P12 - LOC105370158

LOC284930

FAM209B

LOC105374492

TRABD2B

VSTM2A-OT1 - RNU6-1125P

ATP6V0E1P4 - LOC107984953

RNA5SP189 - LOC345571

LOC648934 - LOC105377871

PIP4K2A

MAF

LOC105375199

RNA5SP56 - PSMC1P12

RPL23P10 - RNA5SP264

VSIG10

LGALS17A

LOC107986537

FARP1

LOC100505853 - LOC105372203

PLEKHG6

CELF2

LOC105370013 - RPL17P37

LRIF1

LOC105376654

DAPL1

NLRP8

CDH20 - LSM6P1

FAM155A, FAM155A-IT1

EHF

SAMD13

S100P

LOC645763 - DAP

ADCYAP1

MXD1 - ASPRV1

SYT1

LOC105375859 - LOC107986889

C2CD4C

LOC107984610 - ATP12A

KRT18P13 - FOXE1

TMEM229B, GPHN

BUD13 - ZPR1

MIR99AHG

RASGEF1A

CBS

ZPR1

UGT2B7

COL4A1

HMGB1P1 - CTCFL

BPESC1 - PISRT1

FTO

SOX6

LOC105376498 - ZNF248

ANO3

ITPR3

RN7SKP178 - INO80D

PALD1 - PRF1

RPS17P5 - LOC100418898

TCF4

FARS2

LOC126987 - LOC105378887

RMST

TNKS - LINC00599

LOC105372152 - RPS3AP49

PRKCH

LOC105378797

RNU4-17P - LOC342784

PACS1

INHBB - LINC01101

LHFPL3

PCDH9

RPL21P67 - ARG1

TTC28-AS1, TTC28

MDFIC

WWOX

FAT1 - LOC102723906

LOC105373352 - TMEM18

BCDIN3D-AS1

LINGO2

TRIM66

NCAM2

LOC105371116 - LOC105371117

LOC105371116

LOC105372666

LOC100533736 - PRKRIRP9

LOC101928230 - LOC105371356

FPGT-TNNI3K, LOC105378803, TNNI3K

ETV5

GNAT2

BDNF

NRXN3

HNF4G - LOC105375906

LINC01122

RPTOR

HS6ST3

MAP2K5

HOXB5, HOXB-AS3

ZNF646P1 - LOC105370210

ETV5 - LOC105374257

BDNF-AS

Type 2 Diabetes

Mild: Likely low genetic risk for Type 2 Diabetes

Diabetes is a chronic condition that affects the way glucose is processed by the body. 27 million people suffer from diabetes in the U.S, with more than 86 million in the pre-diabetes stage. The symptoms of this condition are normally very mild, in fact, 8 million people in the U.S are suspected to have diabetes but they don't know about it. People of certain genetic types are at a higher risk of developing diabetes and should watch out for symptoms like: excessive thirst, blurry vision, fatigue, irritability and poor wound healing.

- Gene markers analyzed: 154
- Gene markers present in your raw data: 124
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Maintaining a healthy weight is essential: Losing 5 to 7% of your starting weight will help prevent diabetes. Lose weight, if overweight: Every kilogram of weight loss reduced diabetes risk by 16% for people with pre-diabetes.
- Get physically active: Check with your doctor before beginning any physical activity. A study by researchers from The University of Bath showed that 10 minute exercise sessions over 6 weeks improved insulin sensitivity by 28%.
- Exercise: Moderate exercises increased insulin sensitivity by 58% while high intensity exercises increased insulin sensitivity by 81%.
- Do not drink sugar sweetened beverages: Drink water instead of sugar sweetened beverages- People who drank more than 2 cups of sugar sweetened beverage every day had a 20% increased risk of diabetes.
- Avoid Diet Sodas : Replacing diet sodas with water during a weight loss diet decreases insulin resistance and lowers fasting glucose levels.
- Quit Smoking: Smoking increases the risk for diabetes by 44% among average smokers

and by 61% among heavy smokers. 5 years after quitting, the risk for diabetes is reduced by 13%.

- Follow a low carb diet :- In a 12 week study, pre-diabetic people on a low carb diet had 12% reduction in blood sugar and 50% in insulin.
- Stay motivated about changing your lifestyle : Lifestyle changes lowered diabetes risk by 46% when compared to people with no lifestyle change.

Genes Analyzed:

GCGR
HNF1B
PAX4
PPARG
FTO
SASH1
LINC01339
LOC646736 - LOC105373915
WFS1
CDKAL1
SGCD
PAPL
LOC105375161 - RPL26P21
LINC00824
LOC105378979 - MAP3K1
IGF2BP2
DNER
LOC105373528 - GPR45
HHEX - EXOC6

PEX5L

PLEKHA1 - LOC105378525

SYN2 - GSTM5P1

MAF

1-Mar

LOC105375769 - WISP1

ANK1

RHOU

LOC100132735 - LOC100507477

LINC00624 - BCL9

FSCN3 - PAX4

SDHAF4

CDKN2B-AS1 - DMRTA1

GLIS3

GRK5

CDC123 - CAMK1D

ZFAND6 - FAH

ADCY5

FAM58A

ZMIZ1

VPS33B

SLC30A8, LOC105375716

LOC101927450 - CHCHD2P9

LOC105370275

RPSAP52

KCNQ1

ST6GAL1

FAF1

MPHOSPH9

PTPRD

VPS26A

AP3S2, C15orf38-AP3S2

FGFR3P1 - ZDHHC20P2

KCNQ1, KCNQ1OT1

RNA5SP94 - MIR4432HG

SLC16A13

POU5F1

LOC100129940, HMGA2

INS-IGF2

SRR

MTCO3P1 - LOC102725019

GRB14 - COBLL1

YAP1P3 - PRELID1P1

ZBED3-AS1

ADAMTS9-AS2

HNF4A

KCNJ11

LOC105373384 - DUSP9

LOC107986166

MAEA

ARL15
NPM1P47 - C2CD4B
HMG20A
RASGRP1
LOC101929282 - LOC105373686
LOC646736
THADA
RBMS1
UBE2E2
TCF7L2
LOC105375494, LOC101928423
OASL
LOC105369831 - LOC105369832
PRC1-AS1, PRC1
LAMA1
LOC107986093 - PRICKLE2-AS1
JAZF1
ZFAND3
LOC107986598
RREB1 - SSR1
SGCG
LOC105375508

Heart Disease

High: Likely high genetic risk for heart disease

Heart disease includes coronary heart disease, congestive heart failure, myocardial infarction and

heart attack. The different types of heart diseases are identified by a variety of signs and symptoms and only a cardiologist is qualified to diagnose these conditions, definitively. People of certain genetic types are at a higher risk for heart disease and should watch out for signs that include: shortness of breath, dizziness, fatigue, sweating, palpitations, and an ache in the chest.

- Gene markers analyzed: 65
- Gene markers present in your raw data: 45
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

According to the American College of Cardiology, women who did not smoke, who had a BMI which was within the normal range, who exercised for 2 and a half hours every week, ate a healthy diet, did not drink alcohol and watched one hour less of TV every day, had a 92% lower risk of coronary heart disease.

- Watch your Waist: A waist size of higher than 35 for women and 40 for men increases the risk for coronary heart disease.
- Include cocoa: A study in Italy showed that people who ate three portions of chocolate a day cut myocardial disease risk by 77% when compared to people who ate less than one portion a day.
- Eat healthy meals: Replace ½ cup of cheese with ½ cup of beans in your wrap to cut down about 100 calories. Trimming your meals and including healthier options is good for your heart and waist.
- Include Omega 3 fatty acids: Omega 3 fatty acids are good for heart health. The American Heart Association recommends eating fish at least twice a week. The Mediterranean diet which includes fruits, whole grains, vegetables, fish, legumes and olive oil, is good for heart health.
- Quit Smoking: According to the Centre for Disease Control (CDC), smoking causes one of three deaths due to cardiovascular disease. So quit smoking or if you don’t smoke, do not start.
- Learn to Relax: Working for 55 hours in a week for a period of 10 years increases the risk for heart disease by 16% while working for 60 hours per week can increase risk by 30%.

Genes Analyzed:

GATA6

GATA4

DNAJC5B

CUX2

MIA3

INPP5D

ASIC2, LOC107985038

FHL5 - RPS7P8

FMN2

PECAM1

LOC105373786, TFPI

LOC105377873 - LINC01526

CHRDL1

BCAP29

HECTD4

GNN; GNN

HLA-DQB1 - MTCO3P1

LOC107986049 - TOMM22P6; LOC107986049 - TOMM22P6

SMG6

CNNM2

PEMT - LOC105371564

CDKN2B-AS1

LIPA

ANKS1A

LOC105377504 - GUCY1A3

LOC105373461 - CISD1P1
HNF1A
MRAS
CYP1A1 - CYP1A2
KIAA1462
HHIPL1
LPA
ADAMTS7 - LOC390614
UBE2Z
ALDH2
ATP2B1
STK32B; STK32B
LPA; LPA; LPAL2; SLC22A3
LOC101929163
PHACTR1
LOC105369463 - LOC102723862
STX18-AS1
LOC105371642, ZNF648

Hypertension

Mild: Likely low genetic risk for Hypertension

Hypertension is a medical term for a condition that is characterized by a persistently elevated blood pressure in the arteries. 90% of hypertension incidences are due to poor lifestyle choices and genetic factors, while 5 to 10% may be due to an underlying medical condition. The normal blood pressure for adults at rest is between 100–140 millimeters mercury (mmHg) systolic and 60–90 mmHg diastolic. A blood pressure at or over 140/90 mmHg is considered high blood pressure. People of certain genetic types are at a higher risk of having hypertension and should watch out for symptoms like: dizzy spells or headaches during spikes.

- Gene markers analyzed: 123
- Gene markers present in your raw data: 94
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Lose weight: Maintaining a healthy weight can help control blood pressure. Losing even 10 pounds can lower blood pressure.
- Watch how much caffeine your drink: Some people metabolize caffeine slowly and this can increase their blood pressure. Such people would benefit from drinking caffeine in moderation.
- Salt sensitivity: Some people are highly sensitive to salt in their diet and could lower their blood pressure considerably on a low salt diet, such people would benefit from cutting down salt in their diet.
- Include whole grains: Include a lot of whole grains in the diet and cut down on processed food.
- Exercise regularly: Regular exercise of half an hour a day can reduce blood pressure by 4 to 9 points. Exercise is not restricted to time at the gym but can include physical activities like gardening or walking to work.
- DASH diet: The Dietary Approaches to Stop Hypertension (DASH) is one of the best diets to manage high blood pressure and it includes controlling alcohol consumptions, cutting down on caffeine and restricting high fat foods and including plenty of whole grains.
- Get Sufficient Sleep: Insomnia or lack of sleep could increase blood pressure. Try to create a bed time routine, switch of all electronic gadgets an hour before bed time, do not drink caffeinated beverages post dinner or wear ear plugs and eye pads to restrict noise and light for a peaceful sleep.

Genes Analyzed:

BMPR2
SMAD9
ACVRL1

LOC101927701 - LOC402076

LOC283278

OGDH

MAP2K4 - LINC00670

ITPR1

CFDP1

ITGA11

PLCD3

GUCY1A3, LOC107984032

GUCY1A3

CSK

PRDM8 - FGF5

MTHFR

C20orf187

ATP2B1

PLEKHA7

ARHGAP42

BAG6

UBA52P4 - LOC105377005

PLCE1

CACNA1D

C10orf32, C10orf32-ASMT

LOC105375794 - LOC100133669

HIVEP2

LOC388780 - TGM3

WLS - RPS7P4

CACNB2

BDNF

LOC105370003

C10orf107

LOC102724596

LOC107984437 - LOC102723639

CAPZA1 - MOV10

LOC102723639 - LOC105370003

TAP2

FLJ20021 - LOC105377346

MYO16

CNNM2

NT5C2

NPR3 - LOC340113

C10orf32-ASMT

FIGN - PRPS1P1

SOX6

LOC730129 - LOC102724419

CAPZA1

PLEKHG1

ULK4

RPL35P4 - LOC107986733

LOC102724339 - RNA5SP236

HIST1H4C - HIST1H1T

NOV

FES

LOC105378492

CDH13

MECOM

POC1B - ATP2B1

STK39

ZNF969P - ENPEP

LOC100129728 - RPL21P44

CASZ1

LOC101927697

LOC105372189 - CBLN2

LINC01317; LOC105374456; LINC01317; LOC105374456; LINC01317; LOC105374456; LINC01317

XRCC4; XRCC4

MSRA

LOC107984724 - ALDH1A2

FSTL4

OPRM1

LOC105369743; LOC105369743

BMPR1B

GPR39; GPR39

LOC105374832 - LOC105374833; LOC105374832 - LOC105374833

RANBP3L - RNA5SP181; RANBP3L - RNA5SP181

UMOD

ZFAT; ZFAT

MACROD2; MACROD2

MIR548AZ - NOV; MIR548AZ - NOV

MYO6; MYO6

SLC12A9

Stroke

Mild: Likely low genetic risk for Stroke

Stroke is a medical condition in which blood flow to specific regions of the brain is cut off resulting in cell death. Stroke symptoms can be identified only by a qualified cardiologist. People of certain genetic types are at a higher risk for stroke and should watch out for signs that include: face drooping, weakness in the arm and speech difficulty.

- Gene markers analyzed: 34
- Gene markers present in your raw data: 20
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition

- Mediterranean diet: A mediterranean diet has been shown to lower the risk of stroke even among people with a high genetic risk. In another study conducted on 15,000 people, including healthy foods from a mediterranean diet was found to be more important in lowering risk of stroke than avoiding unhealthy food.
- Antioxidant rich foods: In a study conducted on 31,000 women, healthy women with highest antioxidant intake had a 17% reduction in stroke. While among women with a history of cardiovascular disease, there was a 57% reduction in hemorrhagic stroke among those with highest antioxidant intake.
- Vitamin C intake: In a study conducted on the benefits of vitamin C intake and stroke, it was found that on an average, people who had a stroke had depleted levels of vitamin C.
- Chocolate and stroke: In a study conducted on 37,000 Swedish men, chocolate consumption was found to be associated with reduction in risk of stroke.
- Modify lifestyle factors: Modifying lifestyle factors will help in lowering the risk for

stroke and these include quitting smoking, heavy consumption of alcohol, high fat and high salt rich diet as well as lack of exercise.

Genes Analyzed:

NDUFS1
SPSB4
LOC105369165 - RNU6-997P
LOC105375075 - LOC101929770
ZFHX3
HDAC9
IMPA2
AIM1
LOC105369597
PTPRG
PITX2 - MIR297
NAA25
HDAC9 - LOC105375174
PRMT5P1 - EDNRA
WDR12
LOC105370913
PEMT - LOC105371564
PHACTR1
LOC105377853 - LOC100131890

Atrial Fibrillation

Mild: Likely low genetic risk for Atrial Fibrillation

Atrial fibrillation is a heart condition in which there is an irregular heartbeat with increased heart rate. The prevalence of this condition ranges between 0.2 to 0.4 per 1000 people. People of certain genetic types are at a higher risk of developing this condition and may exhibit symptoms like: dizziness, increased heart rate, shortness of breath, palpitations and weakness.

- Gene markers analyzed: 36
- Gene markers present in your raw data: 23
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Maintain a healthy weight: Maintaining a healthy weight is essential to lowering the risk for atrial fibrillation. People who are overweight are at 20 to 30% increased risk of developing the condition while people who are obese are at a 60% increased risk of developing atrial fibrillation.
- Get sufficient exercise: Exercise helps the body shed the extra weight and it also helps in lowering the risk for atrial fibrillation. Though exercise is a prerequisite, excessive exercise could increase risk.
- Avoid binge drinking: Studies have shown that drinking 5 to 6 cups of alcohol within a span of two hours could increase the risk for atrial fibrillation. Some recent studies have shown however, that drinking even as low as 2 cups per day could increase risk. Overconsuming alcohol is also known to increase risk of weight gain and blood pressure, therefore, moderation will help lower risk.
- Increase intake of fish: Some studies indicate that consuming fish twice or thrice a week can considerably lower the risk for atrial fibrillation.

Genes Analyzed:

GJA5
GORAB - LOC105371610
ZFHX3
LY96
PITX2 - MIR297

ASAH1
RANP6 - LOC107986203
LOC107985401
WNT8A
NEBL, LOC102725112
CUX2
C9orf3
LOC105378360
KCNN3
HCN4

Cardiomyopathy

Mild: Likely low genetic risk for Cardiomyopathy

Cardiomyopathy is a disease of the heart muscles. The prevalence of this condition is 1 in 500 people. People of certain genetic types are at an increased risk of developing cardiomyopathy and may exhibit symptoms like : Chest pain, fatigue, dizziness, shortness of breath or weight gain.

- Gene markers analyzed: 518
- Gene markers present in your raw data: 229
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Follow a healthy diet: Eat a diet that is rich in fruits, vegetables and whole grain. Choose lean meats and fish to improve health. Keep a tab on the amount of sodium that is consumed, as it could increase blood pressure. Stay away from foods that are rich in saturated fat.
- Remain active: Exercise is very important for heart health, but the type of exercise and duration should be determined on consultation with a physician. Over a period of time,

exercise will help in lowering blood pressure.

- Keep blood pressure undercheck: Cardiomyopathy is accelerated due to underlying health conditions like elevated blood pressure and heart disease. Check blood pressure routinely using a sphygmomanometer.
- Maintain a healthy weight: Obesity increases the risk for cardiomyopathy. Make suitable changes to diet and exercise to maintain a healthy weight.
- Get sufficient rest: Sleep well during the night and avoid overexertion

Genes Analyzed:

MYH7
TMEM43
EMD
MYBPC3
RBM20
DNAJB6
TNNC1
DSG2
PKP2
MYL2
NEXN
DMD
DSP
LMNA
ACTN2
BAG3
MYLK2
TNNI3
MYL3

TTN
ACTC1
VCL
CSRP3
SCN5A
TNNT2
ABCC9
LDB3
TPM1
PRKAG2
DSC2
ZBTB17

Hypertriglyceridemia

Mild: Likely low genetic risk for Hypertriglyceridemia

Hypertriglyceridemia is a medical condition in which there is elevated levels of triglycerides. The prevalence of severe hypertriglyceridemia is about 2 in 10,000 persons. People of certain genetic types are at a higher risk of developing hypertriglyceridemia and may exhibit symptoms like: xanthomas, pancreatitis, lipemia retinalis.

- Gene markers analyzed: 5
- Gene markers present in your raw data: 4
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Include niacin rich foods: Niacin has been found to lower triglycerides by 30 to 50 %, LDL by 5 to 25% and increase HDL by 20 to 30%. Niacin supplements may be advised

for high risk patients, starting on a low dose with gradual increase.

- Check for underlying disease conditions: Fatty liver disease is associated with an increased risk for hypertriglyceridemia, especially among people who are obese and have insulin resistance.
- Consume a diet low in saturated fats: Foods that are rich in saturated fats should be restricted. Instead a diet rich in fruits, vegetables and whole grains should be consumed.
- Exercise Regularly: Regular exercise helps in lowering triglyceride levels
- Restrict Alcohol consumption: Alcohol is known to affect lipolysis and this could lead to increased plasma triglycerides.
- Pregnancy: Triglyceride levels are found to increase three-fold during the third trimester of pregnancy. Eat healthy foods and follow diet and exercise regimen as provided by a physician.

Genes Analyzed:

GPD1
PHYHIP
BAZ1B
TMEM241

Familial Hypercholesterolemia

Mild: Likely low genetic risk for FH

Familial hypercholesterolemia (FH) is characterised by an inability of the body to remove low density lipoprotein. The global prevalence of familial hypercholesterolemia is 10 million. People of certain genetic types have a higher risk of developing this condition and may exhibit symptoms that include: fatty skin deposits called xanthomas present on hands, elbows, knees and in the cornea of the eye, deposits of cholesterol in the eyelids and signs of coronary artery disease like chest pain.

- Gene markers analyzed: 52
- Gene markers present in your raw data: 14
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

People with familial hypercholesterolemia have a 5 times increased risk of heart disease.

- Low fat diet: A diet low in saturated fat and cholesterol is the first step to managing familial hypercholesterolemia.
- Include plant sterols: Studies indicate that plant sterols and stanols are associated with reducing blood cholesterol. Rice, corn and vegetable oil contain plant sterols and stanols.
- Medications: A qualified physician will prescribe medications to lower cholesterol levels in the body.
- Quit Smoking: Smoking makes cholesterol 'stick' to arterial walls, which can be avoided by quitting smoking.

Genes Analyzed:

STAP1
LDLR
PCSK9
APOB

Non-Alcoholic Fatty Liver Disease

Moderate: Likely moderate genetic risk for NAFLD

Non alcoholic fatty liver disease is a type of fatty liver disease which is characterised by deposition of fat in the liver due to causes other than alcohol. The prevalence of non alcoholic fatty liver disease has risen in the United States from 18% in 1991 to 31% in 2012. People of certain genetic types are at a higher risk developing non alcoholic fatty liver and should watch out for symptoms that include: enlarged blood vessels, abdominal swelling, enlarged liver, pain in the upper right abdomen and unexplained weight loss.

- Gene markers analyzed: 23
- Gene markers present in your raw data: 19
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Maintain a healthy weight: The prevalence of non alcoholic fatty liver disease is much higher among obese individuals (80-90%) when compared to the general population. Therefore, maintain a healthy weight. Reduce intake of fructose rich food sources like sodas, fruit juices and soft drinks. Studies have shown that gradual weight reduction along with an increase in physical activity improve liver enzymes, insulin sensitivity and quality of life.
- Increase intake of antioxidants: Antioxidant rich foods, including vitamin E and betaine, have been associated with a decrease in risk for non alcoholic fatty liver disease in various pilot studies.
- Restrict intake of high fatty foods: The genetic variant associated with an increased risk for non alcoholic fatty liver disease is also associated with poor metabolism of triglycerides. Elevated blood triglyceride levels are associated with insulin resistance and fatty liver.

Genes Analyzed:

SLC38A8
LOC643339
KHDRBS3 - RNU1-35P
SLC46A3
SLC9A9
MACROD2
SEL1L3
LOC107985431 - LOC105372699
RNA5SP489 - RPL13AP7
LPPR4 - LOC107985093
LINC00322 - LOC101928399
ST8SIA1
EHBP1L1

LOC107986198
LOC101928277
LOC100130331 - MTCO1P38
LOC105370163, DCLK1
LOC107984934 - LOC101929406
PNPLA3

Hypothyroidism

Mild: Likely low genetic risk for Hypothyroidism

Hypothyroidism is an endocrine disorder in which the thyroid gland does not produce sufficient amount of thyroid hormone. In the U.S, the prevalence of hypothyroidism is 4.6%, with women being more commonly affected. People of certain genetic types are at a higher risk of developing hypothyroidism and may exhibit symptoms like: weight gain, puffy face, dry skin, fatigue, lethargy or hair loss.

- Gene markers analyzed: 14
- Gene markers present in your raw data: 10
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Increase Iodine intake: Low iodine intake is associated with increased risk of hypothyroidism, though this is not one of the common reasons in developed nations.
- Lower risk of infection: Studies have shown that microbial antigens could mimic thyroid autoantibody and lead to increased risk of hypothyroidism.
- Quit Smoking: Smoking is an important risk factor in the development of hypothyroidism. Quitting will help in lowering risk for the condition.
- Learn to manage stress levels: Stress can lead to inflammation and trigger autoimmune conditions like hypothyroidism. Learn to cope with stress by better time management and stay away from triggers.
- Increase screening: People who are at high risk of getting hypothyroidism should get

tested to identify the condition at an early stage. Many people have subclinical condition, in which the symptoms do not show up. According to the American Thyroid Association, everyone over the age of 60 years should get tested for the condition.

- Lower Homocysteine Levels: People with hypothyroidism are associated with increased homocysteine levels. Sufficient intake of folate will help in lowering homocysteine levels and help lower the risk of hypothyroidism.

Genes Analyzed:

TSHR
NKX2-1
SACS - LINC00327
ZNF804B
MTF1
ZBTB10
MUC22 - HCG22
HLA-DQB1 - MTCO3P1
VAV3
KRT18P13 - FOXE1

Migraine

Mild: Likely low genetic risk for Migraine

Migraine is recurrent headaches that range from being mild to severe. The global prevalence of migraine is 14.7%, which is 1 in 7 people. People of certain genetic types are at a higher risk of developing migraine and may exhibit symptoms including: ‘drilling’ headache, nausea, sensitivity to sound and light.

- Gene markers analyzed: 37
- Gene markers present in your raw data: 28
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Follow a sleep routine: Sleep at the same time and wake up at the same time everyday, irrespective of whether it is at weekends or during weekdays. Too much sleep or insufficient sleep could trigger a migraine.
- Exercise at moderate intensity: Exercising at moderate intensity has been found to lower the intensity of migraine, however, high intensity exercise could trigger migraines.
- Learn to relax: Stress is one of the biggest triggers of migraine, so go for a walk, meditate, listen to music or do yoga to relax.
- Eat at regular intervals: Drop in blood sugar levels are known to trigger migraine, so eat at regular intervals.
- Medications: Your doctor may prescribe analgesics or specific drugs with vasoconstrictor properties.

Genes Analyzed:

LOC100129100 - LOC105375629
FHL5
LOC105375013
TRPM8
BPIFC
NBEA
MAPK10
FGF23 - FGF6
MEF2D
LOC105376673 - EEF1DP6
SUGCT
LOC105377013, LOC101927995
IGLL1 - DRICH1

LOC105370955
LOC100533710 - HNRNPKP3
ZDHHC6
LOC107986042 - SCN11A
LOC390332
TGFB1
NRP1
LOC105377904 - LOC105377907
LOC107984002
MSL3P1 - TRPM8
LRP1
LOC105375655, LOC101927066
PRDM16, LOC105378606
ASTN2

Osteoarthritis

Moderate: Likely moderate genetic risk for Osteoarthritis

Osteoarthritis is a disorder which is characterised by breakdown of the joint cartilage and the underlying bone. According to the Global Burden of Disease 2010, the prevalence of hip osteoarthritis was 0.85% while that of knee osteoarthritis was 3.8%. People of certain genetic types are at a higher risk of developing osteoarthritis and may exhibit symptoms like: joint stiffness, swelling, crackling, bony outgrowth or bump on the finger.

- Gene markers analyzed: 11
- Gene markers present in your raw data: 8
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Maintain a healthy weight: Studies have shown that weight loss among overweight women could lower the risk for osteoarthritis. In the Framingham study, loss of 2 units or more of BMI was associated with 50% reduction in risk of osteoarthritis.
- Hydrate well: Joints need lubrication to move smoothly, therefore drinking at least 9 to 12 glasses of water everyday will help lower osteoarthritis pain.
- Control blood sugar: Diabetes is known to lead to generalised inflammation which could lead to the loss of cartilage. Studies show that nearly half of Americans who have been diagnosed with diabetes also have osteoarthritis.
- Stretch: Improve joint flexibility by carrying out stretching exercises every day, especially before exercise. This might not lower the risk for osteoarthritis but will help lower muscular spasms due to the condition.
- Choose a flat, soft surface to exercise: Exercising on a hard floor could be jarring for the joints. Therefore, choosing a grass surface to exercise is preferable.
- Run moderately: Running does not cause osteoarthritis, however, among people who are predisposed to it, running could contribute to the condition.

Genes Analyzed:

CRTC1
CSMD1
CAMK2B
LOC102723442 - RPL35AP
ALDH1A2
LOC101929770, SUPT3H
GNL3
BTNL2, LOC101929163

Osteoporosis

Mild: Likely low genetic risk for Osteoporosis

Osteoporosis is a condition in which bones become fragile and prone to fractures. Currently over 200

million people across the world suffer from osteoporosis, with over 30% of postmenopausal women in the United States and Europe with osteoporosis. People of certain genetic types are at a higher risk of developing osteoporosis with symptoms that include: back pain, stooped posture or loss of height over time.

- Gene markers analyzed: 6
- Gene markers present in your raw data: 6
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Include calcium in combination with Vitamin D supplementation: A minimum dose of 800 I.U of vitamin D and 1200 mg of Calcium are recommended as a preventive treatment for osteoporosis for people over 50 years of age.
- Check homocysteine levels: High homocysteine levels are associated with an increased risk for osteoporosis.
- Cut down on alcohol consumption: Studies have shown that chronic heavy alcohol consumption could increase the risk for osteoporosis.
- Exercise: Studies have shown that weight bearing exercises are effective in preventing bone mineral loss among postmenopausal women. Walking is effective for the hip, while weight bearing exercises are effective for the lumbar spine as well as the hip.
- Vitamin K supplementation: Supplementation with vitamin K, according to studies, has been associated with a reduction in the occurrence of fractures among people with osteoporosis.

Genes Analyzed:

HIGD1AP4 - LOC105373907
OSBPL1A
COLEC10
ALDH7A1
LOC105373832, FTCDNL1
MECOM

Bone Mineral Density

Mild: Likely low genetic risk for low Bone Mineral Density

Bone mineral density (BMD) is the amount of bone mineral in bone tissue. The higher the bone mineral strength, the stronger the bones are. BMD is highly heritable according to many research studies. People of certain genetic types are at a higher risk of low bone mineral density and thereby at risk for osteoporosis or fractures.

- Gene markers analyzed: 104
- Gene markers present in your raw data: 92
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

Bones are the major support system for the body and finding out early if you need to provide them with extra nourishment will help you lower the risk of brittle bones as you age.

- Include calcium: Calcium is the most abundant mineral in the body with 99% of this mineral present in teeth and bones. Include sufficient amount of calcium in the diet.
- Include Vitamin D and K: Studies have shown that Vitamin D increases the absorption of calcium from the intestines while Vitamin K lowers secretion of calcium.
- Exercise for better bone health: A study conducted on college going students showed that athletes with low body weight had better bone mineral density than others. Weight bearing exercises are ideal for better bone health like walking, stair climbing, running and jumping rope.
- Control caffeine intake: Consuming more than 2 cups of coffee per day has been shown to be associated with increased bone loss among people who consumed low amounts of calcium.

Genes Analyzed:

LOC105377045 - MRPS31P1
LOC105373519 - LOC728815
COLEC10
MEPE - HSP90AB3P

WHSC1L2P - SOST

C17orf53

HDAC5

GNG12-AS1, WLS

ESR1

LOC102724957

LOC101060363 - LOC105376856

LOC105375411

ARHGAP1 - ZNF408

MGC57346-CRHR1

XKR9

RBMS3

ADAMTS18

LOC100133286

LOC105376360, LOC101927880

PTH - HMGN2P36

LOC105370177 - TNFSF11

NME8

WNT16 - FAM3C

KIAA2018

GPATCH1

C7orf76, LOC105375411

TMEM263

RPL37AP7

MARK3

LOC105375075 - LOC101929770

MEF2C

RPS6KA5

LOC105377992 - LOC105377989

CPED1

RPS3AP2 - PTX4

MEF2C-AS1

LOC105378305

LOC107983964 - LOC101927334

DCDC5

LOC105369301, CLDN14

MAPT

CCDC170

LOC105373578 - LOC107985815

SP7

JAG1

LOC105378008 - RPL23AP46

LOC107984507

LEKR1

LRP5

IDUA

WNT16

MPP7

LOC102724072

LOC105375723 - TNFRSF11B

LOC105375411, C7orf76
SMG6
DNM3
FAM210A
CSRNP3 - GALNT3
IDUA - FGFRL1
KCNMA1 - LOC105378372
CPN1
FOXL1 - LOC101928614
LOC107985015 - LOC102723505
HOXC5, HOXC4, HOXC6
LOC105374517 - PKDCC
ABCF2
FUBP3
LOC105369709 - PTHLH
FABP3P2 - LOC105370177
TNFRSF11A
FAM3C
FMN2

Gallstone Disease

Mild: Likely low genetic risk for Gallstones

Gallstones are hardened deposits of digestive fluid that are formed in the gallbladder. The prevalence of gallstones was 4.15%, more in females than in males. People of certain genetic types are at a higher risk of developing gallstones than others and may exhibit symptoms like: Abdominal cramping or discomfort,nausea or vomiting.

- Gene markers analyzed: 3

- Gene markers present in your raw data: 1
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Maintain a healthy weight: Obesity is one of the important factors that increase the risk for gallstones. Increased weight accelerates cholesterol secretion by the liver which increases the risk for gallstones. The presence of fat around the waist increases the risk of gallstones among women.
- Lose weight gradually: Rapid weight loss leads to the development of gallstones in about 10 to 25% of people on a slimming procedure.
- Follow good dietary practices: A diet rich in fibre and calcium lowers the risk for gallstones. Regular mealtimes are another important factor. Some studies claim that moderate alcohol intake lowers the risk for gallstones, however, alcohol can increase the risk for other metabolic diseases.
- High risk environmental factors: Pregnant women or people who undertake prolonged fasting are at an increased risk for gallstones. Women who undertake hormone therapy are also at an increased risk for gallstones.

Genes Analyzed:

SULT2A1

Chronic Kidney Disease

Mild: Likely low genetic risk for Chronic Kidney Disease

Chronic kidney disease (CKD) is a gradual loss of kidney function. According to The National Kidney Foundation, 10% of the global population suffers from chronic kidney disease. People of certain genetic types have a higher risk of developing chronic kidney disease and may exhibit symptoms like : fatigue, loss of appetite, malaise, weight loss, itching, insufficient urine production.

- Gene markers analyzed: 18
- Gene markers present in your raw data: 15

- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Maintain a healthy weight: Obesity is one of the major factors associated with chronic kidney disease. In a study conducted to identify the effect of obesity on chronic kidney disease, it was found that people with a BMI > 25 at age 20 years had a significant 3 fold increased risk of developing CKD.
- Smoking: In a study conducted on 7476 non diabetic individuals, it was found that smoking more than 20 cigarettes per day increased the risk for CKD. Another similar study showed that smoking more than 5 cigarettes per day increased serum creatinine by 31%.
- Nephrotoxins: The excessive use of analgesics have also been shown to increase the risk for chronic kidney disease. One study showed that people who consumed between 1000 to 4999 pills during their lifetime had a 2 fold increased risk of CKD while people who consumed more than 5000 pills during their lifetime had a 2.4 times increased risk of CKD. Alcohol consumption and the use of recreational drugs that contain mercury have also been associated with CKD.
- Diabetes mellitus: Diabetes is an independent risk factor for CKD due to advanced glycation end products, hyperfiltration injury and reactive oxygen species. Nearly 50% of people diagnosed with type 2 diabetes will develop diabetic nephropathy while 10% of these will develop progressive loss of renal function.
- Acute Kidney Injury: Studies have shown that acute kidney injury increases the risk for end stage kidney disease by 10 fold.
- Control blood pressure: Hypertension is an important risk factor for chronic kidney disease and it accounts for nearly 28% of all end stage renal disease patients in the U.S.

Genes Analyzed:

ZNF343
LOC105373651 - LOC100289623
HS3ST6 - MSRB1
LOC105374007, LOC105374005

SALL4P5 - RPL24P7
UMOD
STC1 - LOC107986931
SLC22A2
LOC100533853 - RNU6-953P
TFDP2
SLC13A3
DACH1
SLC34A1
CST3

Age-Related Macular Degeneration

Mild: Likely low genetic risk for AMD

Age related macular degeneration is a condition in which there is blurring of sight or loss of central vision. According to the Centres of Disease Control and Prevention (CDC) , there are 1.8 million people with AMD. People of certain genetic types are at a higher risk of developing AMD and may exhibit the following symptoms: sudden or a gradual change in the quality of vision, straight lines could appear distorted, difficulty or loss of vision in dim light and leading to drastic loss in central vision.

- Gene markers analyzed: 60
- Gene markers present in your raw data: 47
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Quit Smoking: Smoking is an important risk factor for age related macular degeneration and if you do not smoke, don’t start. According to a study published in the British Journal of Medicine, 53,900 residents of UK, below the age of 69, were shown to have AMD attributable to smoking, with 17800 amongst them going blind.
- Eat fruits and Vegetables rich in Carotenoids: The Nurses’ health study that followed

63,443 women and 38,603 men found that there was a 40% reduction in AMD risk among individuals who consumed high amount of carotenoid rich food.

- Take AREDS nutritional supplement: The Age Related Eye Disease Study (AREDS) sponsored by the National Eye Institute found that specific doses of vitamin C, vitamin E, Zinc and Beta Carotene lowered the progression of AMD. The AREDS nutritional supplement includes: vitamin C - 500 mg, vitamin E - 400 IU, beta-carotene - 15 mg, zinc - 80 mg (as zinc oxide), copper - 2 mg (as cupric oxide).
- Exercise Regularly: A 15 year follow up study conducted by the University of Wisconsin showed that physical activity had a protective effect on AMD.
- Eat a lot of fish: A study by the researchers from The University of Sydney, on 2900 people over 49 years, showed that people who ate fish at least once a week had 40% lower risk of developing AMD.

Genes Analyzed:

RAX2
ABCA4
SLC44A4
LOC101929705, C6orf223
CETP
C3
LOC105378525, ARMS2
CFH
C2, C2-AS1
CX3CR1
NELFE
CFI
LINC01101 - LOC105373585
GLI3
CLIC5, LOC105375078
LOC105373585

NMRK2 - DAPK3
COX5BP4 - C1DP5
COL8A1
REST
FRK
NOTCH4
LOC105375013 - LINC00243
TGFBR1
LOC105378525
NT5DC1, COL10A1
SKIV2L
CCDC109B
CFB
RAD51B
LOC107986598
B3GALTL
LOC101928635, LIPC
APOE
LOC105373027, SLC16A8

Glaucoma

Moderate: Likely moderate genetic risk for Glaucoma

Glaucoma is a condition in which the fluid pressure of the eye increases. Approximately 3 million Americans suffer from glaucoma, however, only about a half of them know that they have it. People of certain genetic types have a higher risk of developing glaucoma and may exhibit symptoms like : Blurred or hazy vision, rainbow like circles around bright lights, severe pain in the eye, nausea or vomiting.

- Gene markers analyzed: 35
- Gene markers present in your raw data: 24
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Drink hot tea every day: A study published in the British Medical Journal found that drinking hot tea everyday lowered the risk for glaucoma. The risk lowering effect was not noticed on consumption of hot coffee, iced tea or drinking other beverages.
- Eat a diet rich in fruits and vegetables. Fruits that are rich in vitamin A and C like carrots, green beans, collard beans, spinach, Kale are known to lower the risk of glaucoma. Antioxidant rich foods like pomegranate, acai berry, cranberries, lycopene and flax seeds.
- Maintain Homocysteine levels: Ensure that homocysteine levels are low as high homocysteine levels have also been associated with an increased risk of glaucoma.
- Control for other risk factors: Risk factors for glaucoma also include high blood pressure, high myopia, injury during eye surgery and diabetes. Control for these risk factors.

Genes Analyzed:

WDR36
MYOC
ASB10
GMDS
LOC105376196
LOC105375694 - RPL23P9
CAV2 - CAV1
AFAP1
LOC440700 - TMCO1

TXNRD2
EPDR1
COL11A1
LOC102724330 - ST18
PLEKHA7
LOC105376196 - LOC107987106
LOXL1, LOXL1-AS1
GCM1
DERA
SRBD1
CDKN2B-AS1
DNAJC24
ELP4
TBC1D21
LOXL1

Cone-Rod Dystrophy

Mild: Likely low genetic risk for Cone-Rod Dystrophy

Cone rod dystrophy is an inherited disorder of the eye. The prevalence of this condition is 1 in 40,000 people. People of certain genetic types are at a higher risk of developing cone rod dystrophy and may exhibit symptoms like: poor clarity of vision, color vision problems, night blindness and loss of peripheral vision.

- Gene markers analyzed: 18
- Gene markers present in your raw data: 17
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition. There is no known treatment for this condition, but the following could help in delaying vision loss.

- Avoid bright light: People with this condition have an increased sensitivity to light and would benefit from avoiding bright light. Wearing sunglasses when stepping out into the sun may be comforting.
- Use low Vision Devices: Hand-held magnifying glasses could help in better vision and lower strain to the eyes.
- Nutrition to support the photoreceptors: Increased intake of carotenoids lutein and zeaxanthin, omega 3 fatty acids, taurine and vitamin C protect the photoreceptors. The antioxidant properties of bilberry extract is also known to protect against photooxidation of the retinal cells.
- Microcurrent stimulation: This procedure can be carried out to lower pain and to improve circulation in the retina.
- Avoid drugs like viagra: Men who are at a higher risk of developing this condition should avoid drugs like viagra as it prevents the synthesis of an enzyme associated with vision

Genes Analyzed:

ABCA4
POC1B
RPGRIP1
C8orf37
PROM1
CACNA1F
DRAM2
RIMS1

Chronic Obstructive Pulmonary Disease

Moderate: Likely moderate genetic risk for COPD.

Chronic obstructive pulmonary disease is a progressive lung disease which is characterised by

breathlessness. This includes, emphysema, bronchitis and asthma. According to WHO, 251 million cases of COPD existed in 2016. People of certain genetic types have a higher risk of developing chronic obstructive pulmonary disease and may exhibit the following symptoms: Shortness of breath, wheezing, frequent respiratory infections, inability to exercise and chest tightness.

- Gene markers analyzed: 38
- Gene markers present in your raw data: 32
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Quit Smoking: Smoking is the single most important factor which has been associated with an increased risk for chronic obstructive pulmonary diseases. People who smoke have 12 times higher risk of developing this condition when compared with people who do not smoke. If you are not a smoker, do not start and avoid second-hand smoke.
- Avoid smoke: Avoid smoke from unventilated wood houses or smoke from cooking over firewood. Smoke from biomass has also been known to increase the risk for chronic obstructive pulmonary disease.
- Restrict Occupational Exposure: Studies have shown that 20% of COPD cases are due to occupational exposure. Miners who work with Gold and Cadmium have been found to have the highest risk.
- Watch out for allergens: When there is an increase in outdoor air pollutants like smog, stay indoors. Keep indoors free from second hand smoke and other pollutants.

Genes Analyzed:

P2RX7, LOC105370032
MIR99AHG
LOC105370514 - LOC101927690
TRSUP-CTA2-1 - WNT7A
KAZN
RNF150
LOC105377897 - COPS5P1

PSORS1C1
ECSCR - TMEM173
LOC102723765 - AHNAK
LOC100288974 - SFTPD
HLA-C - USP8P1
NPM1P35 - ASRGL1
SCGB1A1, LOC102723765
TMEM254 - RPL22P18
SFTPD
TMEM254
ATP2C2
MMP3 - MMP12
RIN3
FAM13A, LOC105377327
IREB2
KLHL7 - NUPL2
HTR4, LOC107986462
CYS1
CRACR2B
LOC105373614 - LOC107985945
HSPA12A

Asthma

Moderate: Likely moderate genetic risk for Asthma

Asthma is a common chronic inflammatory condition of the airways of the lungs. According to CDC, 25.7 million people across the world suffered from asthma in 2010. People of certain genetic types are at a higher risk of developing asthma and may exhibit the following symptoms: wheezing, chest

pain, difficulty in breathing and coughing.

- Gene markers analyzed: 64
- Gene markers present in your raw data: 48
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Avoid allergens and triggers: Allergens present in the air may trigger an asthma attack as they could lead to inflammation of the airways. Identify these allergens and avoid them.
- Use room humidifiers: Adding some moisture to the air can ease symptoms of asthma, but too much moisture could increase the risk of dust mite growth.
- Use air filters: Air filters, especially the ones that include high efficiency particulate air filter, have been found to remove 99.97% of allergens that are at least 0.37 microns.
- Mediterranean diet: A mediterranean diet has been found to be associated with a lower risk of asthma.

Genes Analyzed:

LOC105379121 - TSLP
TLR1
LOC105371081, CLEC16A
LOC100216346 - RNU6-1213P
RANBP6 - GTF3AP1
TRPM8
LOC105371544 - LOC107985014
LOC105373262 - LOC107985371
HPSE2
RNU2-47P - TYRP1

SRIP1 - LOC105377671

LOC105377956 - LOC105377953

CDHR3

LOC107984373 - LOC387820

GTF3AP1 - IL33

LOC100130207

RAD50

RORA

SLC22A5

MRPL11P2 - LOC105378204

IL1RL1

LOC105755953 - LOC101928272

PYHIN1

GSDMB

RAD50, LOC101927761

PBX2

IL2RB

CRB1

HCG23, LOC101929163

HLA-DRA - HLA-DRB9

LOC101929163, C6orf10

IL18R1

GSDMA

NOTCH4

LRRC3C

LOC100287014 - LOC105377623

BTNL2 - HLA-DRA

HLA-DQA1 - HLA-DQB1

LOC102725019 - HLA-DQA2

BRD2 - HLA-DOA

HLA-DPA1

Alzheimer'S Disease

Moderate: Likely moderate genetic risk for Alzheimer's disease

Alzheimer’s disease is a progressive neurodegenerative disorder, constituting 60 to 70% of dementia incidences. Approximately 200,000 Americans younger than 65 years of age have early onset Alzheimer’s disease. People of certain genetic types have a higher risk of developing Alzheimer’s disease and may exhibit symptoms like: difficulty in remembering, confusion, disorientation and speech difficulties.

- Gene markers analyzed: 94
- Gene markers present in your raw data: 68
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Ensure social engagement: Staying socially active is found to be protective against alzheimer’s disease. Older individuals tend to shy away from meeting people, which could increase their risk for the condition. Try to join volunteer groups and social clubs to improve social contact.
- Exercise regularly: Alzheimer’s research and prevention foundation states that regular exercise can lower the risk of alzheimer’s by 50%.
- Engage in mentally stimulating activities: An NIH Active study showed that older adults who were associated with at least 10 sessions of training showed improved cognitive function which was evident even 10 years later.
- Enjoy good quality sleep: Studies have shown that poor sleep could increase the risk of beta amyloid plaques and thereby increase the risk of alzheimer’s.

- Eat a diet rich in omega 3 fatty acids: The docosahexaenoic acid (DHA) found in omega 3 fatty acids have been found to be associated with reduction in beta amyloid plaques and lowering the risk of alzheimer’s disease and dementia.

Genes Analyzed:

KRAS - LOC105369701
SYNGAP1
LOC107985896 - RPS20P10
ZNF292
LOC101926941 - RPS12P10
SUCLG2
LINC00290 - LOC101928679
RNU6-560P - LOC107984426
PICALM - RNU6-560P
CR1
SH2D4B
CLU
ARL17B, LRRC37A
RN7SL782P - RN7SKP122
LOC100420620 - RN7SKP298
GLIS3
TOMM40
NCR2 - LOC100505711
SNAR-I - LOC107986171
ARHGAP20
ST18

SP6

MOBP

AFF1

GABRG3

SPON1

PDE7B, LOC644135

PGAM5P1, LOC100289673

CLMN

CACNA1G

SAP30L

MYO16

TGM6

ANKRD55

BZW2

CRADD

CTNNA2

BCAS3

LOC440390 - LOC105371394

MAPRE1P2 - LOC105374391

DYNLL1P4 - RBM19

PPP1R3B

LOC105369915 - NDUFA12

LOC107984589 - VDAC1P12

LOC105375056, TREM2

CNTNAP2

PRSS52P, LINCR-0001
DISC1, TSNAX-DISC1
POLN
LOC105369746
RN7SKP168 - ZFYVE9P2
RNF6, ATP8A2P3
NDUFB2P1 - LRAT
STK24
MS4A4E - MS4A4A
PICALM
ABCA7
CLU - SCARA3
MS4A6A
PVRL2
FRMD4A; FRMD4A; FRMD4A
CLU; CLU; CLU
APOE

Amyloidosis

Mild: Likely low genetic risk for Amyloidosis

Amyloidosis is a rare condition in which there is an abnormal buildup of a protein called amyloid. One study showed that the prevalence of this condition in the UK is 20 per million. People of certain genetic types are at a higher risk of developing amyloidosis and may exhibit symptoms like: shortness of breath, weight loss, fatigue, bruising, swelling of the tongue, carpel tunnel syndrome and tingling feeling.

- Gene markers analyzed: 13
- Gene markers present in your raw data: 4

- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Help break down the amyloid protein: Amyloid proteins are fibrous and insoluble aggregates which could build up in tissues and organs. These amyloid deposits have been shown to be broken down by pineapple enzyme and bromelain.
- Check for underlying disease: Certain diseases like rheumatoid arthritis could increase the risk for amyloidosis.
- Take a break and pace yourself: When an activity is strenuous, learn to pace it out well. Check with a physician about the appropriate level of activity that can be carried out. In people with amyloidosis, organ systems may have to work additionally hard to cope with normal activities. Therefore sufficient rest is mandatory to manage the condition.
- Low salt diet: Low salt diet will help in delaying the spread of the disease and will help in reducing severity.

Genes Analyzed:

TTR
GRAMD1B

Anxiety

Mild: Likely low genetic risk for Anxiety

Anxiety disorders are characterised by feelings of fear and anxiety. This disorder affects more than 40 million people in the U.S every year. People of certain genetic types are at a higher risk of developing anxiety disorders and may exhibit symptoms like: excessive worry, sweating, hypervigilance, nausea, poor concentration or trembling.

- Gene markers analyzed: 5
- Gene markers present in your raw data: 3
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Enrol for counselling sessions: Counselling sessions will help develop coping strategies and help in addressing interpersonal problems and in stress management.
- Cognitive behavioural therapy (CBT): This method of treatment is involved in addressing a specific incident that occured and developing new ways of coping with the issue. In the event that a traumatic life experience triggered the anxiety disorder, CBT will help in reframing the trauma that was experienced during the event.
- Prolonged exposure therapy: A qualified therapist will carefully re-introduce the 'traumatic incident' or the source of phobia, and help in understanding that the situations are no longer dangerous.
- Caring family: Family therapy is one the most effective methods as the family of the individual could help in creating positive feelings and removing negative thoughts through sustained and patient support.
- Effective stress management: Go for long walks, practice yoga or join a group exercise class, as these are known mood elevators and will help in lowering risk of anxiety disorder.

Genes Analyzed:

LOC105376674 - LOC105376679
LOC101928710 - CYTH1

Autism

Mild: Likely low genetic risk for Autism

Autism includes a range of disorders which are associated with challenges with speech, social skills, speech, repetitive behaviour and non-verbal communication. According to Centres for Disease Control and Prevention(CDC), in the U.S, 1 in 68 children surveyed were found to have autism spectrum disorder. Heritability of autism ranges from 40 to 80%. People of certain genetic types are associated with an increased risk of developing autism and may exhibit symptoms like: learning disability, inability to focus, unaware of other's emotions, sensitivity to sound.

- Gene markers analyzed: 79
- Gene markers present in your raw data: 59

- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

The interaction between genes that are susceptible and environmental factors play an important role in the development of autism.

- Lower prenatal risk: Factors like advanced Parental age, pre-eclampsia, gestational diabetes and maternal anxiety and stress. A study conducted in 2010 showed that there was a 29% increased risk of autism for every 10 year increase in paternal age. There was an 81% increased risk of autism associated with maternal bleeding pregnancy. Paternal psychiatric illness like schizophrenia is associated with a three fold increased risk of autism.
- Lower Natal Risk factors: Natal risk factors like fetal distress, umbilical cord complications or even cesarean delivery are associated with a 26% increased risk of autism.
- Lower postnatal risk: Some of the significant postnatal risk factors include low birth weight, postnatal infection and jaundice. A birth weight of lower than 2500 grams is associated with a two fold increased risk of autism.
- Increase maternal intake of omega 6 and linolenic acid: Maternal intake of polyunsaturated fatty acids like omega 3, linolenic acid,omega 6 fatty acids in the first two months of pregnancy are associated with retinal and brain development. High maternal intake of omega 6 and linolenic acid is associated with 34% lower risk of autism while consuming low levels of omega 6 fatty acids is associated with an increased risk of autism.
- Increase folic acid intake: High intake of folic acid during pregnancy is associated with lower speech problems, behavioural problems and hyperactivity at 8 years of age.

Genes Analyzed:

CHD8
MECP2
FTSJ2
LOC101927026

LOC105373767 - LOC105373768

FAM155A - LIG4

RNA5SP169 - LOC100996286

LOC105369550

PPP2R2B

FOXN2 - PPP1R21

KMT2A

GRIN2A

RNA5SP459 - TCF4

LOC652549 - ADGRL4

NTRK3

LOC105379172 - HINT1

LOC105379365 - RPL10AP3

ZMIZ1

ZNF804A

LOC105375695

CACNA1C

CSMD1

ANK3

LOC107984265, C10orf32-ASMT, AS3MT

LOC107985969

KIF21B

ITIH3

CACNB2

DPCR1

LOC105375629 - LOC105375631

CNNM2

LOC105370359 - LOC107984602

TRI-AAT5-4 - TRV-CAC6-1

CNOT1 - SLC38A7

BTN2A1

TSNARE1

HCN1

TRV-TAC4-1 - TRS-ACT1-1

BTN3A2

PTGES3P4 - C10orf32

LOC105372125

LOC105378992, CTC-436P18.1

LOC105378992

CACNA1I

GIGYF2

MSH5-SAPCD1, MSH5

TCF4

LOC101929359 - TAS2R1

TRIM33; TRIM33; TRIM33; TRIM33; TRIM33; TRIM33; TRIM33

TRIM33; TRIM33; TRIM33; TRIM33; TRIM33; TRIM33; TRIM33; TRIM33

MACROD2

MSNP1 - RNU4-43P

TRIM33

AMPD1 - RN7SL432P

Parkinson'S Disease

Moderate: Likely moderate genetic risk for Parkinson's disease

Parkinson's is a neurodegenerative disorder that affects the central nervous system. This condition is found in 1% of adults over the age of 60 years. People of certain genetic types are at a higher risk of developing Parkinsons and may exhibit symptoms including: tremor in one hand, stiffness, loss of balance, sleepiness during the day, incontinence.

- Gene markers analyzed: 79
- Gene markers present in your raw data: 61
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Exercise regularly: In a study that analyzed 43,000 adults, it was found that women who carried out at least 6 hours of activity every week had a 40% lower risk of developing Parkinson’s.
- Get help for depression: In a study conducted on depression, it was found that there was a strong association between depression and subsequent development of Parkinson’s.
- Drink Caffeine: Moderate consumption of caffeine- one to three cups a day- has been associated with a decrease in risk of Parkinson’s.
- Follow the right diet: A diet high in fruits and vegetables, omega 3 fatty acids and low in red meat and dairy is shown to be associated with a lower risk of Parkinson’s.

Genes Analyzed:

RAB39B
GBA
LMNB1 - MARCH3
LOC105379385 - LOC105379387
ATF6
DSG3

STAP1

LOC102723370

GFPT2 - RNU6-525P

LOC107984782

LOC105372063

LRRK2

DLG2

WNT9A - LOC107985355

LOC107985959 - LOC105373733

LOC105370503

CNKSR3

SPPL2B - TMPRSS9

NUCKS1

MCCC1

SIPA1L2

CCDC62

GCH1

GAK

DGKQ

MCCC1 - LOC105374247

SREBF1

LOC105377329

MAPT-AS1, SPPL2C

RIT2

SLC50A1

BCKDK

CNTN1

KCNN3 - LOC105371449

KANSL1

NSF

GPNMB

SLC2A13

WNT3

BTNL2 - HLA-DRA

SNCA

HLA-DRA

LOC283172 - MIR4697HG

LAMTOR2 - RAB25

LRRK2, LOC105369736

BST1

LOC105373629 - VDAC2P4

SNCA-AS1 - MMRN1

TMEM175

LOC105377286, FAM47E, FAM47E-STBD1

LOC105369735 - LRRK2

NUCKS1 - RAB29

HLA-DQB1 - MTCO3P1

LOC105371702

Schizophrenia

Moderate: Likely moderate genetic risk for Schizophrenia

Schizophrenia is a mental disorder that occurs during late adolescence or in the early twenties. The global prevalence of schizophrenia is 1% and approximately 3.2 million Americans are known to have this disease. People of certain genetic types are at a higher risk of developing this condition and may exhibit symptoms like: aggression, poor social behaviour, hostility and compulsive behaviour.

- Gene markers analyzed: 259
- Gene markers present in your raw data: 201
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Family support: People at high risk for schizophrenia were studied based on the extent of family support that they received. The study showed that there was a significant reduction in clinical manifestation among people who received stress reducing support from the family.
- Aim for early detection: When high risk individuals are screened early, they can be assigned the right therapy by the physician. Slow learners with poor social skills may be identified during schooling. A Harvard University study has shown that poor IQ is a risk factor for schizophrenia leading to false beliefs and perceptions associated with the condition.
- Increase periods of socialising: The condition is intensified due to social isolation, consciously improve relationship with family and friends.

Genes Analyzed:

PTGIS
TTBK1
B3GNT6
PDZRN3
ABCA13

GPR153

GTF2IRD1

RYR2

RELA

MEST

GALNT4;POC1B;POC1B-GALNT4

NLRP12

MAD1L1

CSMD1

SDCCAG8

PIK3C2A

LOC105378800

LOC107984782

PHACTR3

ANK3

PTPRG

NDUFS5P2 - RPL7P9

PLCB2

VRK2

NEBL-AS1 - RNU6-15P

HS3ST4

HAX1 - RNU6-239P

FRMD4B

LOC105369743

PKNOX2 - FEZ1

LOC105370759 - TMCO5B

CDH13

ADAMTSL3

ZFYVE28

LOC107984934 - LOC101929406

LOC105370425

BNIP3L

KIF26B

PPARGC1A

PPFIA2

CALN1

RBMS3 - LOC101927995

POM121L2

TMTC1

LOC101928882

RN7SL26P - BAK1

MIR3169 - PCDH20

RNU6-655P - LOC105372219

MMP16

HLA-DOB

LINC01478

CLCN3

LOC100507431

C12orf42

LOC105376595 - LUZP2

GPM6A, LOC107984113

LINC01378 - LOC102723914

LOC105376107

NT5C2

PTPRF - KDM4A

LOC105374697 - ACTG1P22

LOC107986626

PPM1M - WDR82

GALNT10

NFU1P2 - LOC729987

LOC105370878

LOC105374875

C11orf87 - CCT6P5

LINC01470 - GRIA1

TCF4

LOC107984405 - NRGN

APOPT1

NMB - SEC11A

LOC105372125

GTDC1 - ZEB2

GRIA1

TRT-AGT6-1 - TRI-AAT5-4

IMMP2L

RIMS1 - LOC100422453

ZNF804A

FHIT

LOC105373146

HCN1

NKAPL

MEF2C-AS1

LSM1

MIR137HG

CNTN4

CACNB2

GPR89P - TRV-AAC1-5

PLCL1

CACNA1C

LOC105371308 - LOC101927629

ZNF536

PRKD1

LOC105375451

RENBP

QPCT

LOC105369501 - LOC107984390

BCL11B

C2orf47

MPHOSPH9

MAU2 - GATAD2A

FTCDNL1

RERE, LOC102724552

NOTCH4

ZFP57 - ZDHHC20P1

DGKI

SNAP91

ETF1

LOC107986983, TSNARE1

LOC105369896 - LOC105369900

MAN2A1

SRR

HLA-DRB1 - LOC107986589

COMT

PLCH2

ITIH3

FURIN

ATP2A2

NRGN

CNNM2

PAK6, BUB1B-PAK6

PCGEM1 - LOC107985969

SRPK2

LOC105377031 - TRANK1

BRINP2 - LOC102724661

SATB2

SLCO6A1

TRV-CAC2-1 - TRI-AAT10-1

LOC107986889 - LOC105375861

C10orf32-ASMT

LINC01539

LOC105372131 - LOC101927273

GULOP, EPHX2

SHISA9 - LOC105371093

STAG1

IGSF9B

C1orf132

HHAT

LOC105377030 - LOC105377031

BCL11A

ZSWIM6

GRAMD1B

C2orf82

LOC107986849 - LOC100130704

SNX19 - LOC105369577

NFATC3

C3orf49, THOC7

TMX2-CTNND1, C11orf31

GRIN2A

PDZD8 - LOC105378502

PTPRN2

COL4A2

RPL9P21 - EIF2AP4

CMYA5 - LOC102724557

NTM

SLC39A12 - CACNB2

SLC35F4

RNA5SP50 - RNU4ATAC8P

DMD

MTHFD2P3 - RPL3P7

DOCK6

LOC105375856

HNRNPA3P3 - RN7SL727P

PGPEP1

LINC01300 - GPR20

LINC00598

GPC6

LOC399716 - PRKCQ

LOC105374322

MCC

EFNA5

FAM81A

VPS13C

NGF

BPI

RIN2

ADH5P2 - LOC553139

LOC107987166 - LOC107984372

CNTNAP2
RN7SL643P - LOC107986532
LOC105376249
CYCSP16 - LOC100131124
HLA-K - HLA-U
LOC101929163
LINC00243

Bloom Syndrome

Mild: Likely low genetic risk for Bloom syndrome

Bloom syndrome is a condition characterised by an increased risk of genomic instability. Only about 265 people are believed to have this rare condition. People of certain genetic types have a higher risk of developing Bloom's syndrome and may exhibit symptoms like : short stature, enlarged blood vessels(telangiectases) and rash on the face(cafe au lait spots) that develop during early childhood on exposure to the sun.

- Gene markers analyzed: 7
- Gene markers present in your raw data: 5
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Minimize exposure to the sun: People with Bloom syndrome have increased risk for genomic instability. Therefore exposure to the sun should be minimized on identification of cafe au lait spots. Apply a good sunscreen with a high SPF.
- Increased risk of cancer: People with this condition often have increased genomic instability and should ensure increased screening.

Genes Analyzed:

BLM

Cystic Fibrosis

Mild: Likely low genetic risk for Cystic Fibrosis

Cystic fibrosis is an inherited condition that affects the lungs and the digestive system. The prevalence of this condition is about 1 in 2500 among caucasians. People of certain genetic types are at a higher risk of developing this condition and may exhibit symptoms like: Abdominal pain, chronic cough with blood or phlegm, diarrhoea, shortness of breath, delayed puberty, fatigue and acute bronchitis.

- Gene markers analyzed: 169
- Gene markers present in your raw data: 17
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Increase calorie intake: people with cystic fibrosis may not have sufficient digestive enzymes to break down food. Therefore, an increase in calorie intake is necessary.
- Drink sufficient fluids: Fluids help in thinning the mucus present in the lungs. Drinking plenty of water is recommended.
- Physical therapy: Physical therapy and lung rehabilitation may be necessary to loosen the mucus present in the lungs.
- Exercise regularly: Exercising regularly will help in loosening the mucus present in the lungs and also for strengthening the heart. Children should participate in sports or even simple exercises like walking and stair climbing wil help.
- Quit smoking: Breathing in smoke can be harmful for people with cystic fibrosis. Therefore quit smoking and avoid passive smoking too.
- Take extra care to avoid infections: People with cystic fibrosis should be extra careful about personal hygiene to avoid infections. Though cystic fibrosis does not affect the immune system, people with this condition, especially children, develop complications. Handwashing is a simple but effective practice which could limit the risk for infections. Following the vaccination chart is another important step.

Genes Analyzed:

CFTR
LOC103021296
AGTR2
LOC102723568

Depression

Mild: Likely low genetic risk for Depression

Depression is a serious yet common mood disorder which affects the way an individual thinks, feels and handles daily activity. According to WHO, nearly 4.4% of the global population suffers from depression. People of certain genetic types are at a higher risk of developing depression and may exhibit symptoms including: changes in sleep, energy level, activity, mood, self esteem and concentration.

- Gene markers analyzed: 10
- Gene markers present in your raw data: 6
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Handle stress well: Find innovative ways to handle stress to lower the risk of depression. Enhancing stress resilience has been shown to decrease the risk of stress induced depression and stress can be handled effectively using psychological, spiritual, social and neurobiological ways.
- Strain at work: Job strain has been associated with an increased risk of depression. Alleviating this strain through re-organisation and training will help lower risk.
- Include sufficient tryptophan: In study subjects who had a strong family history of depression, a tryptophan deficient diet was found to lower mood. A diet rich in tryptophan will help lower the risk of depression.
- Take care: Get sufficient sleep, exercise well and eat well to feel good.

Genes Analyzed:

NPAS3
CAND1.11
LOC105379109
GRM8
DDX50
HSPD1P15 - CDH18

Epilepsy

Mild: Likely low genetic risk for Epilepsy

Epilepsy constitutes a group of disorders which are characterised by epileptic seizures. These seizures are associated with vigorous shaking, which can last from a short unnoticeable period to longer periods. According to WHO, approximately 50 million people across the world live with epilepsy.People of certain genetic types are at a higher risk of developing epilepsy and may exhibit symptoms like : jerking movements that are uncontrollable, amnesia, anxiety, feeling of pins and needles and depression.

- Gene markers analyzed: 248
- Gene markers present in your raw data: 191
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Ketogenic diet: This diet is rich in fats and low in carbohydrates. When the main source of energy is fats, ketones are produced as a byproduct. These are also produced when there is a period of fasting. People who have epilepsy are associated with a lower risk of developing seizures when they are in a period of fasting. Therefore, it is believed that a ketogenic diet may help people with epilepsy.
- Manage stress: Organize the day well and include time to relax. Stay away from stressful situations or try to remain calm. An increase in stress levels could exacerbate symptoms.

- Avoid alcohol: Avoid alcohol intake and consume a healthy diet
- Maintain a regular sleep schedule: Getting a good night’s rest is very important to lower the risk of seizure. Go to bed at the same time everyday and ensure that the bedroom is used only for sleeping and not for finishing assignments from work.

Genes Analyzed:

NHLRC1
CHRNA4
SLC2A1
PNPO
PRICKLE1
CSTB
POLG
KCNT1
SPATA5
GABRG2
KCTD7
GRIN2A
TBC1D24
GABRA1
SCN1A
GOSR2
KCNMA1
MEF2C
EFHC1
LOC101929680, SCN1A
LOC105377628 - VRK2

LINC01412 - TEX41
CHRM3
LOC105377632, LOC101927235
COPZ2
SCN1A, LOC102724058
MMP8
CAMSAP2
PCDH7 - LOC102723778
GABRG1 - GABRA2
LOC101927078 - TRIM36

Gout

Mild: Likely low genetic risk for Gout

Gout is a severe form of inflammatory arthritis that is characterised by the deposition of monosodium urate crystals in and around the joints. The incidence of gout is 2 to 6 times higher among men than among women. People of certain genetic types are at a high risk of developing gout and may exhibit symptoms like: Pain in joints like ankle, knee, toe or foot, swelling, stiffness, redness or physical deformity.

- Gene markers analyzed: 15
- Gene markers present in your raw data: 12
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Lower sugar intake: People at high risk for the condition should lower intake of sugar sweetened beverages that are known to increase the risk of gout. Reduce intake of beer, meat like red meat or organ meat that are known to have high amounts of saturated fat and seafood like tuna, mackerel, trout and offal could lower risk of gout.

Increase intake of coffee, cherries, omega 3 fatty acids and low fat milk which are known to marginally reduce risk.

- Periodic screening: The uric acid levels should be maintained at 5 to 6 mg/dl and people at high risk should get it routinely screened. Urate lowering therapy may be initiated by physicians if there are symptoms.

Genes Analyzed:

FAM35A
ABCG2
BCAS3
SLC2A9
RFX3 - RFX3-AS1
KCNQ1
CYP2E1
PKD2 - ABCG2
SLC2A9, LOC105374476
CNIH2

Hemochromatosis

Mild: Likely low genetic risk for Hemochromatosis

Hemochromatosis is the leading cause of iron overload disease. The prevalence of this condition among people of Northern England origin is about 1 in 227 individuals. People of certain genetic types have a higher risk of developing hemochromatosis and may exhibit symptoms like: lethargy, abdominal pain, reduced hormone function, arthritis, diabetes and abnormal heart rhythm.

- Gene markers analyzed: 8
- Gene markers present in your raw data: 3
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Monitor your iron levels. People at high risk for hemochromatosis should increase screening to ensure that iron levels are within normal limits.
- Modify diet: There are two types of iron rich foods that are consumed. Heme iron from animal sources and non-heme iron from plant sources. Heme iron gets absorbed easily while non-heme iron takes a longer time to be absorbed. Reduce consumption of red meat as it is rich in heme iron.
- Lower intake of fatty food: Lipids can bind to iron that is unbound and result in the development of free radicals which are known to result in diseases.
- Limit Vitamin C supplementation: Vitamin C enhances absorption of iron, therefore, supplementation with vitamin C should be limited to 200mg.
- Avoid foods that are sugar rich: Sugar rich foods are known to increase iron absorption and intake of such foods should be restricted.
- Increase intake of foods and vegetables: Fruits and vegetables are rich in antioxidants and fibre, which are good for reducing DNA damage and also good for digestion. Spinach contains oxalates which is also known to lower absorption of non-heme iron.
- Drink tea or coffee during mealtimes: Tannins present in tea, coffee and chocolates along with eggs, oxalates and fibre lower absorption of non-heme iron. However, drinking coffee or tea along with a meal does not affect absorption of iron
- Avoid consumption of raw shellfish: Shellfish could contain a bacterium called *Vibrio vulnifius* which thrive in iron rich sources. An infection from this bacterium is associated could be fatal for someone with hemochromatosis. Therefore, avoid going barefoot on sandy beaches or eating raw shellfish.

Genes Analyzed:

HFE
TFR2

Anemia

Moderate: Likely moderate genetic risk for Anemia

Anemia is a condition in which there is insufficient healthy red blood cells. According to WHO, the highest prevalence of anemia is among pre-school children and the lowest is among men. People of

certain genetic types are at a higher risk of developing anemia and may exhibit symptoms like: fatigue, malaise, palpitations, brittle nails and shortness of breath.

- Gene markers analyzed: 93
- Gene markers present in your raw data: 45
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Consume foods rich in iron: Foods rich in iron include meat, seafood, iron fortified cereals, eggs, pulses beans, dried food and whole grains. Iron supplements should be taken to ensure that the level of hemoglobin is within normal limits. Some people develop side effects to these iron supplements like diarrhoea and abdominal pain, therefore, care should be taken in choosing the appropriate supplement.
- Drug Interactions: Consuming calcium supplements along with iron supplements could interfere with iron absorption. Therefore calcium supplements and iron supplements should be taken at different times of the day.
- Improve stomach acid: Low stomach acid can lead to malabsorption of iron and many types of vitamins. Apple cider vinegar is considered to be good at altering stomach acid levels. Taking 1Tbsp of apple cider vinegar in 4 to 6 ounces of water, half an hour prior to mealtime, will help in improving stomach acid level. This helps in increasing breakdown and absorption of nutrients.
- Control gastrointestinal infections: Treat infections due to H.pylori and other small bacterial infections as they could lead to the development of leaky gut syndrome or low stomach acid level. Both these are associated with poor absorption of iron from the diet.

Genes Analyzed:

SLC19A2
BAAT
ERCC4
CDAN1

NT5C3A
GSS
SEC23B
RPS28
FANCA
PAH
RAD51C
BRIP1
FANCI
DHFR
GPI
TMPRSS6
CUBN
FANCC
G6PD
FANCG
YARS2
BRCA1
OR51L1 - OR51P1P
BCL11A
OR51B5

Beta Thalassemia

Mild: Likely low genetic risk for Beta Thalassemia

Beta thalassemia is a condition in which there is a reduction in the production of hemoglobin. This condition is highly prevalent in the Mediterranean countries with an annual incidence of symptomatic individuals being 1 in 100,000 people. People of certain genetic types are at a higher risk of

developing beta thalassemia and affected infants may exhibit symptoms like: turning pale, feeding problem, recurrent fever, liver and abdominal enlargement.

- Gene markers analyzed: 34
- Gene markers present in your raw data: 15
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Regular Blood transfusions: Beta thalassemia is characterised by lower hemoglobin levels, so regular blood transfusion will be carried out.
- Safe marriages: In order to lower the risk of an offspring from developing this condition, people who carry the high genetic risk variants for beta thalassemia are advised to marry an individual at low risk for the condition.

Genes Analyzed:

HBB
HBBP1
LOC107986647 - LOC105378010

Glycogen Storage Disease

Mild: Likely low genetic risk for Glycogen Storage Disease

Glycogen storage disease is a condition characterised by deficiency in enzymes associated with glycogen synthesis and glycogen breakdown. The prevalence of this condition is 1 in 20,000 people. People of certain genetic types have a higher risk of developing glycogen storage disease and may exhibit symptoms like: bruising easily, low blood sugar, abdominal bloating, slow growth and weak muscles and muscle cramping.

- Gene markers analyzed: 67
- Gene markers present in your raw data: 26
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Maintain optimal blood sugar levels: People with glycogen storage disease should be careful about the food consumed to prevent excess storage of glycogen in the liver. However, there is a risk of hypoglycemia. Raw corn starch powder is provided throughout the day as this is a complex carbohydrate and the body takes a longer time to break it down. This ensures that the blood glucose levels are maintained for a prolonged period.
- Eat Frequent Meals: An impaired enzyme could result in hypoglycemia among people with glycogen storage disease. Children and adults should eat every 1 to 3 hours during the day and 3 to 4 hours during the night. Extremely low blood sugar levels could lead to seizures.

Genes Analyzed:

PYGL
GBE1
PYGM
ENO3
G6PC
GAA
AGL
PFKM
GYG1
PGAM2

Rheumatoid Arthritis

Mild: Likely low genetic risk for Rheumatoid Arthritis

Rheumatoid arthritis is an autoimmune disorder that affects the joints. This chronic condition is found to affect 1% of the population. People of certain genetic types are at a higher risk of developing

rheumatoid arthritis and should watch out for signs that include: stiffness, tenderness or swelling in the joints, fatigue, feeling of pins and needles and lumps of redness on the skin.

- Gene markers analyzed: 150
- Gene markers present in your raw data: 128
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Quit Smoking: Smoking is found to accelerate the condition and lead to greater joint damage. In a study conducted to identify how smoking increases risk for rheumatoid arthritis, it was found that smoking leads to citrullination of protein. Gene variations that predispose to rheumatoid arthritis have been associated with increasing immune defence against such proteins, leading to autoimmune disorders like rheumatoid arthritis.
- Lose weight: People who are overweight are at a higher risk of developing rheumatoid arthritis, especially among people younger than 55 years.
- Breastfeeding and risk of rheumatoid arthritis: In a study conducted on 121,700 women, it was found that breast feeding for longer than 12 months significantly reduced the risk for rheumatoid arthritis. Early menarche (earlier than age 10) was found to increase risk.
- Include Vitamin D rich food in the diet: In a study conducted on 29, 398 women, increased intake of vitamin D was associated with lower risk of rheumatoid arthritis.
- Intake of antioxidant rich foods: A diet high in antioxidant micronutrients, specifically beta cryptoxanthin and Zinc supplementation, along with a diet high in fruits and vegetables is found to have a protective effect against rheumatoid arthritis.

Genes Analyzed:

PTTG1 - MIR3142HG
ICAM3
GUCY1B2
LOC100505853 - LOC105372203
HLA-S - LOC101929072

YRDCP3 - LINC00323

LOC105371388 - LOC105371389

LINC01104

RPS14P10 - RPS15AP22

ARHGEF3

ALS2CR12

TRHDE

UBASH3A

GMCL1P1

LOC105374414 - LBH

GATSL3

LOC102723649 - LOC442263

ARID5B

PHF19

UBE2L3 - YDJC

CCL21 - FAM205A

AFF3 - LINC01104

B3GNT2 - RN7SL51P

LOC645481 - LOC105374541

CDK5RAP2

MTCO3P1 - LOC102725019

RNF182 - LOC105374939

DPP4

NONOP2

REL

HLA-DQB1 - MTCO3P1

LOC107984079, FAM107A

LINC00824

CCR6, LOC107986672

LOC105378122, CCR6

SPRED2

LOC105371770 - LOC105371771

RAD51B

CD28 - KRT18P39

AIRE

NFKBIE - TMEM151B

NFKBIE

PADI4

UTS2

RNU6-474P - CTLA4

LOC105378083 - LOC101929122

CD226

C5orf30

PLD4

TEC

WDFY4, LRRC18

FAM167A - BLK

MTF1

CEP170B - PLD4

PTPN2

ANXA3

ZPBP2 - GSDMB

CCR6, LOC105378122

RTKN2

TRAF1

BTNL2

LOC105369379, PDE2A

EOMES - LOC105377007

CD40

CDK6

RPS12P4 - RNU4-63P

LOC105369440 - LOC105369441

PLCL2

LOC399716

TXNDC11 - ZC3H7A

MECP2

GAPDHP64 - NEFHP1

CSF2 - P4HA2-AS1

HLA-DRB1 - LOC107986589

JAZF1

ACOXL

LOC107986897 - LOC107986961

ANKRD55

LOC101929163, C6orf10

SFTPD

RABEP1

LOC105369568 - LOC101929538

RPP14

ANO8, DDA1

PCAT29 - LOC107984788

RASGRP1

BAG6, APOM

RUNX1 - LOC100506403

LOC105374540 - LOC645481

SYNGR1

HLA-DRB9 - HLA-DRB5

FAM205A - KIAA1045

FADS2

STAG1

LOC105375920

LOC105370973 - TRY-GTA12-1

LOC107986967

LOC107986292 - FTLP9

SLC6A11

EBF4 - RPL19P1

PCDH15

MDGA2

ZNF175

SPSB1

LOC105378763

PSMA4

PAX5 - RPL32P21

LOC105369519 - DDX6

ELMO1

CD247

RN7SKP226 - LINC00824

Scoliosis

Mild: Likely low genetic risk for Scoliosis

Scoliosis is a medical condition in which the spinal cord of an individual is curved sideways. This condition is prevalent among 2 to 3% of the general population.People of certain genetic types are at a higher risk of developing scoliosis and may exhibit symptoms like: Back pain, muscle spasms, muscle deformity and an uneven waist.

- Gene markers analyzed: 9
- Gene markers present in your raw data: 7
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Screen at frequent intervals: People at high risk should get screened frequently as early detection will help in preventing deterioration. Curves among skeletally immature can lead to highest risk of progression.
- Maintain a good posture: Always sit with your back straight and with the right support. The body weight should be spread evenly on the hips and the feet should be placed flat on the ground.

Genes Analyzed:

NSD1

EXT2
CASC17 - RNU7-155P
MAGI1
LOC101927174
LINC01514 - LBX1
RPL41P1 - LINC01432

Multiple Sclerosis

Moderate: Likely moderate genetic risk for Multiple Sclerosis

Multiple sclerosis is an autoinflammatory debilitating disease that affects the brain as well as the spinal cord. The prevalence of multiple sclerosis in the U.S is 90 per 100,000 population and it affects 2.5 million people worldwide. People of certain genetic types are at a higher risk of developing multiple sclerosis and may exhibit symptoms like: cramping, inability to move, involuntary movements, muscle spasms, poor balance, weakness.

- Gene markers analyzed: 100
- Gene markers present in your raw data: 78
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Living in low latitudes may be better for MS: The presence of low vitamin D or insufficient exposure to the sun’s rays are independent risk factors for MS. Therefore the risk of MS is lower in low latitudes. A study found that people who had lower than 30 nanomoles of Vitamin D per litre were at an increased risk of MS.
- Quit smoking: Cigarette smoking is associated with an increased risk of MS. Moreover, smoking is found to progress the disease more rapidly, so people with MS who smoke, should quit immediately.
- Maintain a healthy weight: Studies have shown that being overweight at 20 years increases risk of MS by two fold. An increase in weight is also associated with lowered absorption of vitamin D, which could also contribute to the increased risk of MS.

- Increase Omega 3 intake: An increase in intake of omega 3 fatty acid rich sources is associated with a decrease in risk for MS, probably due to the anti-inflammatory properties. Fatty fish is a good source of omega 3. In a study conducted to identify the methods of preventing MS, it was found that eating fatty fish at least once a week lowered risk by 45%.
- Watch out for infection from Herpes virus: Epstein Barr virus (EBV), which belongs to the Herpes family of viruses is associated with an increased risk of MS. A study conducted showed that there was significantly higher levels of antibodies against the virus in people who eventually developed MS than among people who did not.

Genes Analyzed:

LOC107984641 - NCOA4P1
LINC01551
LEKR1
MET
GAPDHP56 - LOC105377422
LOC105377262 - LOC100996585
BTNL2 - HLA-DRA
MTCO3P1 - LOC102725019
LOC107984898 - SSTR5-AS1
RREB1
TLL1
NCKAP5
IL12A-AS1, IL12A
LOC646626 - DDAH1
LOC105371082
PLEK - LOC391383
HSPB1 - YWHAG
DLEU1

TRIM42 - RPL23AP41

LOC105377563 - LOC105377564

RPS6KB1

LOC102724145 - LOC100507461

ERG

TMEM47 - FAM47B

MAMSTR

DSC1 - LOC105372049

CHST12

SP140

CLECL1

KIF1B

TNFSF14

EOMES - LOC105377007

AHI1

SLC30A7, HNRNPA1P68

EVI5

VCAM1 - EXTL2

BACH2

AGAP2

LOC105374570, LOC100506047

IL2RA

BTF3L4P3 - LOC102723649

LOC105371664

LOC105371388 - LOC105371389

CD58

IL20RA - IL22RA2

LOC107986041 - LOC105377008

MERTK

CD6

LOC101928791

CYP24A1 - LOC105372675

MAPK1

STAT3

BATF

DKKL1

NCOA5

HLA-F-AS1, HLA-F

LOC285626

HLA-DRA - HLA-DRB9

ZNF767P

FCRL3

SLC15A2

PVT1

LOC105374736 - LOC105374737

TTC34 - ACTRT2

CD6 - LOC105369325

RNASEL

LOC100506047

IL7R

METTL1

MALT1

LOC152225 - LOC101929411

HHEX - EXOC6

MPV17L2

CD86

CBLB

Ulcerative Colitis

Mild: Likely low genetic risk for Ulcerative Colitis

Ulcerative colitis is an inflammatory bowel disease which is characterised by the inflammation of the rectal and the intestinal mucosa. According to The Centres for Disease Control and Prevention (CDC), there are between 37 to 246 new incidences per 100,000 persons every year in the U.S. People of certain genetic types have a higher risk of developing ulcerative colitis and may exhibit symptoms like: abdominal pain, bloody stools, weight loss, rectal pain, joint pain, skin problem and increased abdominal sounds.

- Gene markers analyzed: 110
- Gene markers present in your raw data: 94
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Helicobacter pylori: Children raised in a sanitised environment and with lower exposure to enteric microorganisms are found to have greater susceptibility to ulcerative colitis. *Helicobacter pylori* is an infection that is commonly acquired during childhood and is associated with poor sanitary facilities and overcrowding. A large meta analysis of 23 studies showed that infection with H.pylori was negatively associated with ulcerative colitis, suggesting a protective benefit.
- Appendectomy: A meta analysis has found that children who had an appendectomy below the age of 10 years had a lower risk of developing ulcerative colitis.
- Diet: Diet has been considered an important risk factor in the development of

ulcerative colitis. A high intake of mono and polyunsaturated fatty acids has been associated with an increased risk of ulcerative colitis.

- Breast Feeding: Breast feeding has been shown to lower the risk of developing ulcerative colitis. Breastfeeding provides oral tolerance to microflora as well as for food antigens, which reduces the risk for ulcerative colitis.

Genes Analyzed:

ACTR3B
HDAC9
PIGCP2 - LOC105375444
PTPRC
EPHB4
BPIFB4 - LOC105372714
LOC101927156 - ITGA4
LOC105370273
LOC105373708 - RPLP0P7
PLCL1
LOC105370422 - BTF3P2
SATB2
CACNA2D1
LAMB1
TET2, TET2-AS1
LOC105371473 - FCGR2A
IL23R
SEPHS2 - ITGAL
LINC01475 - NKX2-3
ETS1

PTGIR

MROH3P - KIF21B

CXCR2 - CXCR1

LOC105374607 - LOC105374608

LOC105374736 - LOC105374737

GNA12

GRB7 - IKZF3

LOC101927745

TMCO4 - RNF186

LOC107984526

LOC105371388 - LOC105371389

FGFR1OP2P1 - RPS21P8

TNXB - ATF6B

LOC105373831

ZFP90

SMAD3

CCDC26

HLA-DRA

LOC107985926 - IL1R1

TMBIM1, PNKD

HLA-DRB9 - HLA-DRB5

DENND1B

C5orf66

LOC105378793 - LOC391048

NR5A2

CHP1

LOC105377139 - LOC107983952

DSE - CBX3P9

IL7R

PARK7

GPR35

LOC102725068

NFKB1

RNF186 - LOC105376823

TRAF3IP2-AS1, LOC107986522

CFB

LOC105376823

OTUD3

GPR35 - LOC100420500

HOXA11-AS - HOXA13

LOC392787 - IRF5

MAML2

NOTCH4 - LOC101929163

NXPE2

IL17REL

HNF4A - LINC01430

PROCR

ZFP90 - CDH3

LINC01475

PRDM1

LOC105371887
LOC100996583
CRTC3-AS1, CRTC3
C1orf106
PUS10
GPR65
LOC107984299 - LSP1
LOC101929163, BTNL2
HLA-DRB1 - LOC107986589
LOC105375070 - LOC107986598
APEH
LOC105377135, SFMBT1
BSN
TCF4

Crohn'S Disease

Mild: Likely low genetic risk for Crohn's disease

Crohn's disease is a chronic inflammatory disease which is characterized by inflammation of the lining of the digestive tract. In the U.S 780,000 people live with Crohn’s disease. People of certain genetic types have a high risk of developing crohn’s disease and may exhibit symptoms like: abdominal pain, abdominal bloating, diarrhoea, fatigue, cramping, loss of appetite and blood in the stool.

- Gene markers analyzed: 155
- Gene markers present in your raw data: 137
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis

and treatment of this condition.

- Maintain a food journal: Certain types of food may aggravate symptoms in people with Crohn's disease. Identify such foods and lower consumption. Complete elimination of food types like grains or sugar rich foods is not recommended. Moreover, eating six small meals may be better than eating three large meals.
- Increase iron intake: Chronic intestinal bleeding could result in iron deficiency. Supplementation with iron supplements may be necessary.
- Calcium and Vitamin D: People with Crohn’s disease are at an increased risk of osteoporosis and should take sufficient amount of calcium and vitamin D rich foods.
- Exercise regularly: Even mild exercise is known to benefit people with Crohn's disease. Exercise could help normalize bowel function, lower stress and relieve symptoms of depression.
- Reduce environmental triggers: Environmental triggers like pollen and certain bacteria could trigger inflammation in the gastrointestinal tract. Wearing a mask and using special air filters at home could help lower exposure to such triggers.

Genes Analyzed:

TNFSF15 - LOC645266
CLCA2
CFAP45 - TAGLN2
LOC107986018, MAGI1
AIMP1P2 - TNFSF18
ADAM30
FOXP2 - MDFIC
PARK7
ANKRD55
RUNX3, LOC105376878
KSR1
LOC107983964
GAL3ST2

IL23R

TYK2

IRGM

LOC285626 - LOC285627

PUS10

INPP5D - ATG16L1

MAP3K8

SKAP2

BRD2

LOC101927461 - LINC01164

CARD9

IL23R - RNU4ATAC4P; IL23R; IL23R; IL23R - RNU4ATAC4P; IL23R; C1orf141; IL23R - RNU4ATAC4P; C1orf141; IL23R; IL23R; IL23R; IL23R; IL23R - RNU4ATAC4P; IL23R; IL23R; IL23R

LOC105371660 - LOC107985457

LINC01475

LOC101929163, BTNL2

ZNF365 - ALDH7A1P4

LOC105376491 - CUL2

LOC105378204

LOC105369735

SMNDC1 - LOC105378482

SLC43A3 - RNA5SP341

LOC105369736, MUC19

CDC37

LOC105373399 - LOC107985842

LOC105376493 - CCNY

C5orf56

CDKAL1 - LINC00581

SBSPON - LOC107986891

IL2RA

RAD23BP1 - LOC105376976

BANK1

SMIM3 - IRGM

DNMT3A

LOC105374736 - LOC105374737

C7orf72 - IKZF1

LOC105374410

CLN3

LOC105375746

LOC107984739 - LOC107984725

PPM1G - NRBP1

SLC22A23

LOC101927745

LOC107984997 - RNFT1P2

MYRF

SLC7A10 - CEBPA

CPEB4

LTA - TNF

MRPS35P3 - IPMK

BACH2

PTPN2

ZFP36L1 - MAGOH3P

DENND1B

SBNO2

IL18RAP

NOD2

C10orf55, PLAU

ATG16L1

ITLN1

IFNGR2

FGFR1OP

PDGFB - LOC107985575

ERAP2, ERAP1

IL27

PER3

LOC101927745 - CYCSP42

IL3 - CSF2

LOC107986482 - CPEB4

LACC1

SCARNA5, ATG16L1

TNFSF15

ADAM30 - NOTCH2

OSMR

LOC105378120 - MIR3939

LOC101927300 - LINC01475

ZGPAT

LOC107984647

LOC105447645, FUT2

LOC105376231 - TNFSF15

LOC105374764, TMEM17

LOC285626

PLCL1

SLAIN2

LOC105374409 - LOC105374410

CDKAL1

LOC105378327, ZNF365

HORMAD2, LOC105372988

CTIF - SMAD7

ZBTB38

LOC105377139 - LOC107983952

MLN, LOC105375024

LOC105371618 - AIMP1P2

KIAA1109

LOC105379031

LINC00491, LINC00492

RN7SKP211 - PRDM1

C11orf30 - LOC101928813

JAZF1

TRIB1 - LOC105375746

IFITM4P - 3.8-1.5

LOC105375015

NOTCH4 - LOC101929163

NCR3 - UQCRHP1

LOC105377989, RSPO3

STAT3

Vitiligo

Moderate: Likely moderate genetic risk for Vitiligo

The skin gets its colour from the pigment melanin. The immune system of individuals with vitiligo recognizes the body's own melanocytes as foreign entities and attacks these cells in some areas of the skin, which is evident as white patches. In a study conducted to identify genetic factors associated with vitiligo, the risk among related individuals was 18 times higher than in the general population, suggestive of genetic influence. There exists an inverse association between vitiligo and melanoma (skin cancer), with studies suggesting that an increased immune surveillance may exist against melanoma for people who are at high risk for vitiligo. People of certain genetic types have a higher risk of developing vitiligo and may exhibit symptoms that include: white patches on the skin.

- Gene markers analyzed: 32
- Gene markers present in your raw data: 28
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult your physician for advice.

- Restrict exposure to the sun: Avoid exposure to UV rays from the sun as well as from artificial sources. Since there is a loss of melanin, there is an increased risk of sunburn. Applying a good sunscreen is recommended before stepping out into the sun.
- Avoid tattoos: Any form of trauma to the skin is associated with an increased risk, which includes getting a tattoo.
- Topical corticosteroids: Your dermatologist may recommend the use of topical corticosteroid creams to prevent spread of the white patches.
- Skin camouflage cream: Camouflage skin creams are present to cover up the white patches.
- Skin grafting: Skin from a healthy and unaffected region of the body is removed and is used to cover the affected region.

- Depigmentation: This is recommended if there is more than 50% of skin affected by vitiligo. A depigmentation lotion is applied to remove remaining pigment from normal skin and a hydroquinone based lotion applied to prevent re-pigmentation.

Genes Analyzed:

RPGRIP1L
MSH2
ZMIZ1
SMOC2
LPP
SLC1A2
SUOX - IKZF4
HERC2
SLC44A4
SLC29A3 - CDH23
LOC105373724 - IFIH1
RNASET2
C1QTNF6
BACH2
LOC101929163, BTNL2
CASP7
MICD
ATXN2
ZC3H7B - TEF
RERE
LOC107986118 - ADPRH

DDX6 - SETP16
IL2RA
LOC101929163
GZMB
TG
WASF5P - LOC105375015
FANCA

Alopecia Areata

Mild: Likely low genetic risk for Alopecia Areata

Alopecia areata is an autoimmune condition in which there is loss of hair in one particular part of the body or throughout. It is also known as spot baldness. The prevalence of this condition among the general population is 0.1-0.2%, with a lifetime risk of nearly 2%. People of certain genetic types are at a higher risk of developing alopecia areata and may exhibit symptoms like : hair loss, itching, anxiety and broken nails.

- Gene markers analyzed: 6
- Gene markers present in your raw data: 4
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Lower stress: Stress is known to be an important trigger for this condition. Learn to manage stress levels and engage in stress relief therapies like yoga and group physical activity.
- Eat a healthy diet: A diet that is rich in calcium, iron and antioxidants is known to benefit and to lower risk of alopecia areata.
- Foods rich in quercetin: A study showed that quercetin, a bioflavonoid with anti-inflammatory properties was associated with lower risk of alopecia. Foods rich in quercetin include broccoli, kale, apples, cherry, bell pepper and red wine.

- Control for other risk factors: A diet high in sugar, alcohol consumption and smoking are associated with aggravating inflammation,which is one of the major factors for the development of this condition.

Genes Analyzed:

RNU6-474P - CTLA4
IL2 - IL21
MTCO3P1 - LOC102725019
RAET1M - PHBP1

Anorexia

Mild: Likely low genetic risk for Anorexia

Anorexia is a psychological eating disorder. The onset of this condition is during early adolescence or young adulthood, constituting 3% of all eating disorders. People of certain genetic types are at a higher risk of developing anorexia and may exhibit symptoms like: dizziness, fatigue, low blood pressure, anxiety, extreme weight loss.

- Gene markers analyzed: 12
- Gene markers present in your raw data: 11
- Potential pathogenic markers detected: None

Recommendations

If you recognise any symptoms of this condition, consult a qualified physician for diagnosis and treatment of this condition.

- Ensure a healthy body weight: People with anorexia often are thin but they continue to work towards losing weight in order to cater to a ‘specific’ body image. Prolonged fasting and excessive exercising are some of the measures that are undertaken and which have shown to take a toll on health.
- Avoid activities or images that trigger anorexia: Fashion magazines and shows often are triggers for adolescence to lose excessive weight. Such triggers should be consciously avoided.
- Seek counseling: At the first sign of an eating disorder, seek professional help to