Name	**:**	**SAMPLE REPORT**				**Collected**	**: **/**/******
Lab No.	**:**	************	**Age: ** Years**	**Gender:**	**********	**Received**	**: **/**/******
Status	**:**	**P**	**Ref By : DR. *********			**Reported**	**: **/**/******

Dear SAMPLE REPORT

Congratulations on taking the first step to unlocking better health. It gives me immense pleasure to share your Genomepatri™ report with you. Inside this report is something amazing: your very own DNA story. It's a glimpse into the tiny bits that make up who you are.

As you read, remember this is a part of your unique journey. You will discover insights about your health, unique traits which influence your lifestyle and behavior, and your body's response to medicines. Personalized recommendations from our certified genetic counselors help translate these insights into an action plan for you to get started.

Take your time, enjoy the discoveries, and learn a bit more about the special person that is you.

Understanding Your Results

Population Risk: Prevalence of the particular condition in the general population

Your Risk (Relative Risk): The number of times your risk is higher in comparison to population risk

Your genetic result: Result interpretation for that particular condition based on your genetic makeup

- ⚠ This indicates that you have a high genetic risk for that condition
- ⚠ This indicates you have a medium genetic risk for that condition
- 💡 This indicates that people find this condition interesting

Our genetic counselors can help you get a deeper understanding of your results.

Snapshot of Your Genetic Report

TRAITS

Sports

Conditions	Your Genetic Result
Motivation to Exercise	Intrinsically motivated to exercise
Muscle Performance	Proportionate balance of fast- and slow-twitch muscle fibers. Equal potential for good performance in power and endurance sports.
Bone Mineral Density	Unlikely to have low Bone Mineral Density

Nutrition

Conditions	Your Genetic Result
Vitamin D	Unlikely to need a higher intake of Vitamin D
Vitamin C	Unlikely to need a higher intake of Vitamin C
Vitamin B12	Very likely to need a higher intake of Vitamin B12
Vitamin B9	Unlikely to need a higher intake of Vitamin B9
Vitamin B6	Likely to need a higher intake of Vitamin B6
Healthy Fats	Unlikely to need a higher intake of PUFA

Skin

Conditions	Your Genetic Result
Hair Texture	Very likely to have straight hair
Hair Colour	Likely to have a darker shade of hair colour (brown / dark brown / black)
Eye colour	Likely to have a darker shade of eye colour (brown / dark brown / black)
Eyebrow Thickness	Likely to have moderately thick eyebrows
Skin Colour	Likely to have a darker skin colour
Sun burns	Unlikely to get sunburns
Tanning	Unlikely to get sun tanned
Freckling	Unlikely to get freckles

Lifestyle

Conditions	Your Genetic Result
Sleep Cycle	Very likely to be a morning person
Sleep Duration	Likely to have normal sleep duration
Sleep Depth	Less likely to have deep sleep
High Altitude Adaptation	Typical sensitivity to high altitudes
Nicotine Addiction	Unlikely to be addicted to nicotine
Alcohol Addiction	Unlikely to be addicted to alcohol
Alcohol Flush Reaction	Unlikely to have alcohol flush reaction
Caffeine Addiction	⚠ Likely to be addicted to caffeine
Obesity	Unlikely to become obese
Detox Capacity	⚠ Likely to have reduced detox capacity

Conditions	Your Genetic Result
Dietary Fat Sensitivity	Unlikely to have rapid weight gain on high fat diet

Behavioural

Conditions	Your Genetic Result
Resilience	Increased sensitivity to pain and Enhanced vulnerability to stress.
Learning Ability	Likely to be slightly less effective at feedback-based learning
Memory	Likely to remember well

Cardiovascular

Conditions	Your Genetic Result
Bad Cholesterol (LDL)	Likely to have increased LDL
Good Cholesterol (HDL)	Unlikely to need a higher intake of HDL
Homocysteine	Unlikely to have increased Homocysteine levels
Blood Pressure	Unlikely to have hypertension
Triglycerides	Unlikely to have hypertriglyceridemia

Food Allergies

Conditions	Your Genetic Result
Peanut Allergy	Likely to have peanut allergy
Lactose Intolerance	Very likely to be intolerant to lactose-containing foods like dairy products.

DISEASES

Cardiovascular Diseases

Conditions	Your Genetic Result
Atrial Fibrillation	Increased risk for Atrial Fibrillation
Coronary Heart Disease	Normal risk for Coronary Heart Disease
Stroke	Normal risk for Stroke
Long QT	Normal risk for Long QT Interval
Hypertrophic Cardiomyopathy	Normal risk for Hypertrophic Cardiomyopathy
Venous Thromboembolism	Normal risk for Venous Thromboembolism
Sudden Cardiac Arrest	Normal risk for Sudden Cardiac Arrest

Endocrine

Conditions	Your Genetic Result
Type 1 Diabetes	Normal risk for Type 1 Diabetes
Type 2 Diabetes	Normal risk for insulin resistance which is also linked with Type 2 Diabetes
Hypothyroidism	Normal risk for Hypothyroidism
Endometriosis	Normal risk for Endometriosis

Cancer

Conditions	Your Genetic Result
Colorectal cancer	Normal risk for Colorectal Cancer
Breast Cancer	Normal risk for Breast Cancer
Lung Cancer	Normal risk for Lung Cancer
Pancreatic Cancer	Normal risk for Pancreatic Cancer
Bladder cancer	Normal risk for Bladder Cancer
Melanoma	Normal risk for Melanoma
Renal Cell Carcinoma	⚠️ Slightly increased risk for Renal Cell Carcinoma
Ovarian Cancer	Normal risk for Ovarian Cancer
Basal Cell Carcinoma	Normal risk for Basal Cell Carcinoma
Follicular Lymphoma	Normal risk for Follicular Lymphoma
Chronic Lymphocytic Leukemia	⚠️ Increased risk for Chronic Lymphocytic Leukemia
Hodgkins Lymphoma	Normal risk for Hodgkins Lymphoma
Thyroid Cancer	⚠️ Slightly increased risk for Thyroid Cancer

Liver, Gastro and Renal

Conditions	Your Genetic Result
Celiac Disease	Normal risk for Celiac disease
Liver Cirrhosis	Normal risk for Liver Cirrhosis
Chronic Kidney Disease	Normal risk for Chronic Kidney Disease
Crohn's Disease	Normal risk for Crohn's Disease
Ulcerative Colitis	Normal risk for Ulcerative Colitis

Neuro and Psychiatry

Conditions	Your Genetic Result
Parkinson's Disease	⚠ Increased risk for Parkinson's Disease
Multiple Sclerosis (MS)	Normal risk for Multiple Sclerosis
Schizophrenia	Normal risk for Schizophrenia
Alzheimer's Disease	Normal risk for Alzheimer's Disease
Bipolar Disorder	Normal risk for Bipolar Disorder
Migraine	Normal risk for Migraine
Amyotrophic Lateral Sclerosis	Normal risk for Amyotrophic Lateral Sclerosis
Restless Legs Syndrome	⚠ Increased risk for Restless Leg Syndrome.

Inflammatory

Conditions	Your Genetic Result
Ankylosing Spondylitis	⚠ Increased risk for Ankylosing Spondylitis (AS)
Rheumatoid Arthritis	Normal risk for Rheumatoid Arthritis
Asthma	⚠ Increased risk for Asthma
Systemic Lupus Erythematosus	⚠ Increased risk for Lupus

Eyes, Skin and Hair

Conditions	Your Genetic Result
Age Related Macular Degeneration (AMD)	Normal risk for Age related Macular Degeneration
Atopic Dermatitis	⚠ Slightly increased risk for Atopic Dermatitis

Eyes, Skin and Hair

Conditions	Your Genetic Result
Age Related Macular Degeneration (AMD)	Normal risk for Age related Macular Degeneration
Atopic Dermatitis	⚠ Slightly increased risk for Atopic Dermatitis
Psoriasis	Normal risk for Psoriasis
Vitiligo	⚠ Increased risk for Vitiligo

CARRIER STATUS

Conditions	Your Genetic Result
Glucose-6-Phosphate Dehydrogenase (G6PD) Deficiency	No variants found for G6PD deficiency
Phenylketonuria	No variants found for phenylketonuria

DRUGS

Conditions	Your Genetic Result
Flurbiprofen	Baseline risk for drug sensitivity.
5 Fluorouracil	Normal metabolizer. Baseline risk for drug induced toxicity.
Clopidogrel	Normal metabolizer. Typical likelihood for positive clinical outcome on standard dose.
Codeine	Normal metabolizer. Standard dose may be effective.
Glipizide	Baseline risk for drug-induced hemolytic anaemia
Omeprazole	Normal metabolizer. Typical likelihood for positive clinical outcome, on standard dose.
Simvastatin	Baseline risk for drug induced toxicity.
Thiopurines	High enzyme activity. Low risk for drug induced toxicity.
Tramadol	Normal metabolizer. Therapy effective.
Warfarin	Baseline risk for drug-induced bleeding. Standard dose may be effective.

Your detailed

Genetic Report

Motivation to Exercise

About

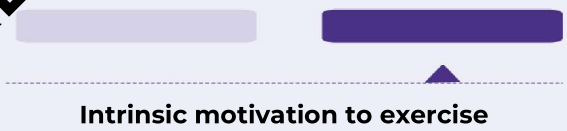
Multiple factors influence individuals' motivation to exercise. Some people feel better and perceive exercise as less tiring or challenging compared to others, which, in turn, affects their motivation to exercise. Studies have shown that certain genetic changes can lead to greater increases in positive mood and a reduced perception of exertion during exercise.

Impact of Genes

Individuals with at least one copy of 'T' allele in the BDNF gene have intrinsically higher motivation for exercise and are likely to continue exercising though given the option to stop it and do it consistently.

Your Genetic Result

Intrinsically motivated to exercise



Intrinsic motivation to exercise

Recommendations

1. Choose exercises you find enjoyable, whether it's dancing, cycling, or playing a sport, to make staying active a source of pleasure.
2. Define achievable fitness targets, like running a certain distance or doing a set number of push-ups, to give your workouts purpose and direction.
3. Schedule workouts at consistent times, making them a habit, and gradually making exercise a natural part of your day.

Muscle Performance

About

The ratio of fast- to- slow-twitch muscle fibres varies in every individual. The composition of the skeletal muscle fibers is an important factor which affects athletic outcome. Informed decisions (based on the genetics) and customised training for speed and endurance players can help improve athletic performance.

Impact of Genes

ACTN3- alpha-actinin-3 gene produces the alpha actinin-3 protein in Type -II (fast twitch) skeletal muscle fibres, and is required in higher amounts during muscle contractions (eg., while sprinting or running). Variation in the ACTN3 gene has three outcomes. 1. Sprint/Power profile 2. Endurance profile 3. Power/Endurance (mixed) profile.

Your Genetic Result

Proportionate balance of fast- and slow-twitch muscle fibers. Equal potential for good performance in power and endurance sports.

Proportionate balance of fast- and slow-twitch muscle fibers.

Recommendations

1. For people with an equal proportion of fast-twitch and slow-twitch muscle fibers - Well-suited for both power and endurance sports and mixed workouts.

2. For people with a greater proportion of fast-twitch muscle fibers - Better suited for power sports and explosive workouts.

3. For people with a greater proportion of slow-twitch muscle fibers - Better-suited for endurance sports and endurance-based workouts.

Vitamin B12

About

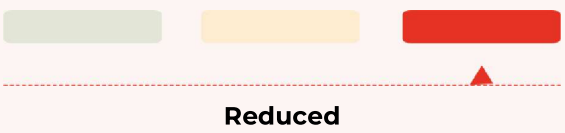
Vitamin B12, also known as cobalamin, is an essential water-soluble vitamin that plays a vital for red blood cell formation, nerve function, DNA synthesis, and energy metabolism, making it indispensable for various bodily processes. Deficiency in vitamin B12 can lead to anemia, fatigue, neurological issues, and impaired cognitive function. Adequate intake through diet or supplementation supports optimal health and ensures the proper functioning of essential systems.

Impact of Genes

The fucosyl transferase (FUT2) gene regulates absorption of Vitamin B12, by mediating the binding of gut microflora (produces H antigens). Genetic variation in FUT2 results in malabsorption, due to absence of H antigens and increased bacterial infection.

Your Genetic Result

Very likely to need a higher intake of Vitamin B12



Recommendations

1. Ensure regular intake of the following Vitamin B12-rich foods:

a. Dairy products such as milk, yogurt, swiss cheese, cottage cheese, buttermilk
b. Fortified foods such as cereals, soy milk
c. Meat, Fish, and Poultry: Rainbow trout, salmon, tuna, haddock, eggs, clams, beef liver, kidney

2. Keep tabs on your Vitamin B12 (and homocysteine) levels.
3. Discuss B12 supplement options with your physician.

Vitamin B6

About

Vitamin B6, also referred to as pyridoxine, is a water-soluble vitamin, crucial for DNA methylation, metabolic health, cardiovascular function, and immunity. It is also integral to glycogen metabolism, neurological function, red blood cell formation, and the regulation of steroid hormones. A deficiency in vitamin B6 can result in neurological issues, anemia, and hormonal imbalances. Ensuring adequate intake through diet or supplementation supports these vital functions and promotes overall well-being.

Impact of Genes

A single base variant near the alkaline phosphatase (ALPL) and the neuroblastoma breakpoint family, member 3 (NBPF3) gene region has been identified as a risk factor for B6 deficiency. The ALPL gene product hydrolyzes pyridoxal phosphate (PLP). Thus, ALPL activity is inversely proportional to PLP levels. Genetic variation in this region affects the rate of vitamin clearance in the body. Individuals with one or two copies of this gene variant have lower concentrations of B6.

Your Genetic Result

Likely to need a higher intake of Vitamin B6

Recommendations

1. Ensure regular intake of the following Vitamin B6-rich foods:

a. Chickpeas, potatoes, spinach, soy products.
b. Non-citrus fruits (banana, prunes, apricots).
c. Chicken breast, tuna, salmon, and beef liver, ground beef.
d. Fortified whole grains and cereals, bran.

Sleep Cycle

About

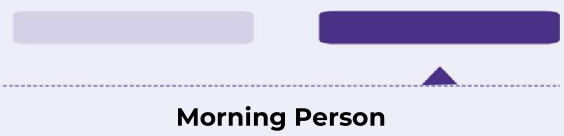
Sleep chronotype is a person's natural inclination with regard to the times of the day when they feel sleepy or when they are most alert. Chronotype can be considered as a physical manifestation of the underlying circadian rhythm of the body, which is nothing but the natural internal process that regulates the body's sleeping and waking up cycle. Eveningness (delayed sleep period) and morningness (advanced sleep period) are the two extremes of sleep chronotype with most individuals having some flexibility in the timing of their sleep period. Morningness refers to the tendency of waking up early and going to bed early. Morning chronotype people are mentally most active during the day. On the contrary, eveningness refers to the tendency of individuals to wake up late and sleep late and have the maximum level of mental alertness during the evenings.

Impact of Genes

Single Nucleotide Polymorphisms (SNPs) of many well studied genes have been long known to impact the chronotype in humans. Of them the most significant one is a missense variant of the PERIOD2 (PER2) gene. T allele in this gene is responsible for an evening chronotype. Evening chronotypes wake up later and go to bed later and their mental alertness is at the maximum level in the evening.

Your Genetic Result

Very likely to be a morning person



Recommendations

1. Align your schedule with your natural rhythm/chronotype so that you can complete important tasks when you are at your peak energy and focus.

Caffeine Addiction

About

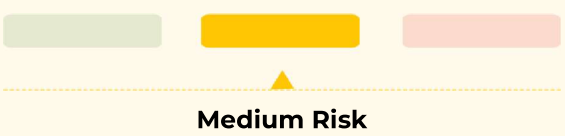
Caffeinated beverages and foods(e.g., coffee, tea and cocoa drinks) are consumed by ~80-90% of the global population. However, the frequency of intake, number of cups per day, and/or units consumed varies across all ages due to differing caffeine sensitivity and metabolic response, owing to genetic factors, habits and environment. Caffeine is a potent drug that can develop addiction in the consumer. It is a strong stimulant that directly affects the central nervous system (CNS) and stimulates an adrenaline rush.
When consumed in moderation caffeine helps in enhanced mental alertness and mood, antioxidant function, and a lower risk for dementia, alzheimer's disease, diabetes, etc.

Impact of Genes

CYP1A2 gene produces the cytochrome P450 A2 protein which is the primary enzyme in caffeine metabolism in the liver (~95%). Genetic variants in this gene have been proved to alter caffeine habits, across various populations. AHR (aryl hydrocarbon receptor) is another gene responsible for caffeine metabolism and influences caffeine consumption. Other important genes include NRCAM (neuronal cell adhesion molecule) that causes vulnerability to addiction and ULK3 (Unc-51-Like Kinase 3), which regulates cellular signaling and development.

Your Genetic Result

Likely to be addicted to caffeine



Recommendations

1. Caffeine is present in many dietary sources, like dark chocolate, beverages, snack bars and health supplements. Stick to low-moderate caffeine consumption (less than 300 mg per day or 3 cups) and watch out for symptoms such as anxiety and gastrointestinal trouble.
2. If you have a confirmed diagnosis of elevated blood pressure, heart conditions, and anxiety, you need to cut back or eliminate caffeine from your diet. Switch to decaf varieties and herbal teas.
3. Caffeine-free thermogenics are good for fueling to get a pre-workout boost.
4. If you are at risk for caffeine addiction, pay attention and control your caffeine consumption.

Detox Capacity

About

Multiple pathways affect how “young” your skin looks - cell repair and regeneration, collagen function, moisture retention and elasticity. The innate capacity of the skin to detoxify the skin i..e, get rid of harmful free radicals, is based on environmental and genetic factors. Reduced antioxidant levels can result in dry, rough texture of the skin, with visible fine lines and/or wrinkles. These are classic signs of premature skin ageing, primarily caused by inadequate detoxification.

Impact of Genes

The SOD2 gene produces the manganese superoxide dismutase 2 enzyme (MnSOD), which functions as a regulator of antioxidant balance in our body. A genetic variation in SOD2 causes a valine to alanine substitution in the protein sequence, which results in lower MnSOD levels. Reduced catalytic activity means lesser conversion of reactive oxygen species (ROS) to water,i.e., detoxification. Hence, cells accumulate increased amounts of ROS. Carriers of the MnSOD variant are at increased risk for oxidative stress and cellular damage, thereby likely to experience premature skin ageing.

Your Genetic Result

Likely to have reduced detox capacity

Recommendations

1. Include plenty of antioxidant-rich foods in your diet - eg., fresh fruits, vegetables, nuts, etc.
2. Stay hydrated, with plenty of water intake everyday. Hydrate your skin (throughout the year) by using a good quality facial moisturiser.
3. Avoid smoking.
4. Apply sunblock to face, neck and other exposed areas, at least 20 minutes before stepping out into the sun.

Dietary Fat Sensitivity

About

The body's response to dietary fat ("sensitivity") is an important factor in weight management. Certain individuals are more likely to gain weight when exposed to greater amounts of fat in their food (i.e., fat-sensitive) due to slower fat metabolism and greater risk of gaining weight.

Impact of Genes

PPARG - Peroxisome proliferator-activated receptor gamma - gene variation affects sensitivity to dietary fat. The gene regulates caloric intake/expenditure, weight regulation, energy balance and adipose metabolism.

Your Genetic Result

Unlikely to have rapid weight gain on high fat diet

Normal Risk

Recommendations

1. If you are genetically predisposed to gain weight on a high-fat diet, stay away from ketogenic diets.
2. Not all fats are bad. Get your healthy fats (PUFAs and MUFAs) from nuts, fish etc.
3. Engage in weight/strength training 2-3 times a week.
4. Dietary restriction will help in optimal weight management.

Resilience

About

A complex interplay between genes and the environment shape personality traits such as learning, addiction habits, memory, cognitive skills and stress response. Genes produce important enzymes that modulate neurotransmitter and hormone function and signaling. An individual's adaptability to stressful situations is largely affected by resilience and pain threshold - two character traits that are affected by genetics.

Impact of Genes

A variant in the COMT (catechol-o-methyl-transferase) gene causes an amino acid change from Valine to Methionine - the altered gene sequence affects an individual's coping mechanism, emotional well-being and the ability to withstand and overcome difficulties.
Val carriers respond to negative "mood" triggers and unfavorable environment better than Met carriers(lower resilience). Individuals homozygous for the Val allele typically display improved response to stressful scenarios. Val carriers have a higher pain threshold and deal with adversities better than Met carriers. Met carriers are more susceptible to stress and are likely to be over-thinkers. Some studies showed that they are more sensitive to emotional stimuli and also highlighted a more altruistic side in such individuals.

Your Genetic Result

Increased sensitivity to pain and Enhanced vulnerability to stress.

"Sensitive"- Elevated levels of dopamine.

Recommendations

1. Cultivate a growth mindset by embracing challenges as opportunities.
2. Find a way to destress like regular exercise or deep breathing techniques, which reduce your pain perception.
3. Develop emotional awareness by paying attention to your emotions.

Learning Ability

About

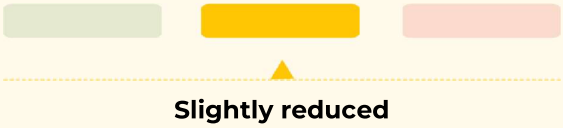
Psychological skills (such as feedback-based learning) are controlled by genes involved in neurotransmission. Neurological function determines the brain?s response to external stimuli, data retention and information processing. All these factors determine learning rate - and an individual?s reaction in situations with possible negative outcome.

Impact of Genes

The DRD2 gene product regulates feedback-based learning (learning from errors) in the brain. The Glu713Lys variant downstream to DRD2 (also known as TaqIA ANKK1 variant) results in altered dopaminergic neurotransmission and reduced D2 receptor binding. Individuals carrying the variant allele in DRD2 are more likely to repeat errors.

Your Genetic Result

Likely to be slightly less effective at feedback-based learning



Recommendations

1. Be curious as it fuels motivation and makes learning more enjoyable.
2. Set specific, achievable goals
3. Seek guidance from a coach or mentor.

Memory

About

The human brain's physiology has a complex and brilliant design for executing all activities in daily life - from driving a car to remembering your dentist appointment. Hippocampal volume is linked with memory and cognitive performance. There are several genes (and their proteins) which regulate neuronal signalling (synaptic communication) - thus determining an individual's response to stimuli, motor skills, learning capacity, memory and cognition, etc.

Impact of Genes

The brain-derived neurotrophic factor (BDNF) gene is expressed in the hippocampus of the brain. It is one of the four important proteins in the human brain, which maintains neuronal structure, function and survival. A genetic variation in BDNF causes a Valine-to-Methionine amino acid substitution (Val66Met) which affects the following: consolidated memory and recall performance, plasticity in the cortex of the brain, grey matter volume, food intake and mood. Carriers of the Met allele displayed lower levels of BDNF protein, due to altered neuronal signalling and BDNF secretion.

Your Genetic Result

Likely to remember well

Recommendations

1. Get adequate sleep as quality sleep is essential for memory consolidation.
2. Stay physically active as this increases the blood flow to brain enhancing cognitive function.
3. Stimulate your brain with puzzles, crosswords or learning new skills to strengthen your memory.

Bad Cholesterol (LDL)

About

Low Density Lipoprotein (LDL) is a lipoprotein produced by the liver. LDL carries fat (cholesterol) molecules to the cells of the body. When these particles (LDL-c) get oxidized, they get trapped in arterial walls, build up plaque and can cause atherosclerosis. HDL-c (good cholesterol) and LDL-c (bad cholesterol) levels cumulatively determine lipid profile and cardiovascular health.. Maintaining the right Total Cholesterol (TC) ratio (Total cholesterol /HDL-c) and LDL/HDL ratio is recommended for optimal wellness.

Impact of Genes

The apolipoprotein family of genes such as APOB (Apolipoprotein B) and APOC1 (Apolipoprotein C1) are known to influence LDL-c concentration in the body. Genetic variations in these genes or their regulatory regions cause hypercholesterolemia and particularly increase plasma LDL-c levels. Individuals carrying LDLR (Low Density Lipoprotein Receptor) gene variants may have lower levels of "bad" cholesterol (LDL-c) in the body and may have a reduced risk for heart disease.

Your Genetic Result

Likely to have increased LDL

Recommendations

1. Maintain optimal HDL-c levels. Include healthy fats in your diet such as fish or krill oil, fatty fish (salmon, mackerel, tuna, rainbow trout), flaxseeds, brazil nuts, peanuts, avocados, etc.
2. Include lots of fresh fruits and vegetables in your daily diet for reducing oxidation and inflammation.
3. Choose cold-pressed oils such as extra virgin olive oil, coconut oil, mustard oil, sesame oil for cooking.
4. Avoid smoking and excess intake of trans fats and hydrogenated fats.
5. Exercise regularly and maintain a healthy weight.

Peanut Allergy

About

Peanuts are one of the most common foods that cause food-induced allergies. The severity of symptoms can vary in individuals, from mild reactions (hives, urticaria) to life-threatening anaphylaxis. The onset of peanut allergy is typically early (childhood) and it needs to be managed for life (it usually does not get resolved with time). Extremely sensitive individuals can suffer a reaction by consuming trace amounts of peanuts. Some studies report that exercise can trigger allergic reactions. Hypersensitive individuals must be trained to self-administer antihistamines (injections) in case of emergencies.

Impact of Genes

(HLA)-DQ and –DR region : Human Leukocyte Antigen - this region is the most significant genetic marker for peanut allergy. Variations in this region affect DNA methylation and possibly the gene product. HLA gene variation also alters the function of the gene product and thereby, affects immune response i.e., HLA binding to the peanut allergen.

Your Genetic Result

Likely to have peanut allergy

Medium genetic risk

Recommendations

1. Check for a history of eczema, atopic dermatitis, egg (or other food) allergies.
2. Consult an allergist for a complete assessment, before introducing peanuts to your childs diet.
3. Get tested for peanut sensitivity. The skin prick test and serum IgE (antibody) blood test are routine tests for peanut sensitivity.
4. Read food labels carefully and avoid foods that may contain nut pieces, nut oils or have been processed in a facility containing nuts.

Lactose Intolerance

About

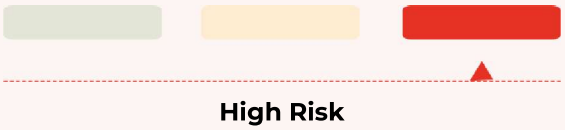
Lactose intolerance (hypolactasia) is a nutritional condition wherein an individual is unable to digest lactose, a key ingredient found in milk and milk-containing foods. One's innate ability to digest lactose peaks during infancy/childhood and gradually declines with age. Hence, the onset of lactose intolerance could be well into adulthood.

Impact of Genes

The MCM6 gene controls the activity of the lactase (LCT) gene, which produces the protein lactase. Lactase is an enzyme that digests lactose. Variation in this gene affects an individual's ability to break down lactose and thereby, likelihood for lactose intolerance.
In some studies, carriers of the MCM6 variant allele had a significantly lower level of lactase enzyme.

Your Genetic Result

Very likely to be intolerant to lactose-containing foods like dairy products



High Risk

Recommendations

1. Maintaining a food diary helps track of dairy intake! Keep tabs on what you eat, if you want to monitor symptoms resembling lactose intolerance.
2. If you do switch to dairy-free alternatives, ensure adequate intake of other calcium-, vitamin- and mineral-containing foods or supplements, to avoid nutritional deficiency.
Calcium-fortified foods and beverages, dairy-free alternatives like soy milk, tofu, dark leafy green vegetables, etc., can be included in your diet for this purpose.
3. If you experience symptoms, consult a clinical nutritionist for a customised diet plan.

Atrial Fibrillation

About

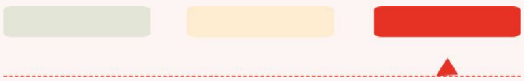
Atrial fibrillation (AF) is an irregularity of the heart or an arrhythmia, typified by rapid heartbeat. It results in palpitation or fibrillation of the two upper chambers of the heart – known as atria (singular atrium). Atrial fibrillation is caused due to abnormal electric charges produced in the heart. It is largely asymptomatic, although some cases exhibit palpitations (irregular heartbeat).

Impact of Genes

Genetic factors may play a crucial role in those inheriting strong familial history for atrial fibrillation. Genome wide association studies have identified the causative genes for AF. Genes for myocardial ion channels like potassium and sodium, several transcription factors and gap junction proteins were brought to prominence after extensive research. Some of these regions include variants on chromosome 4q25, ZFHX3 and KCNN3 genes.

Your Genetic Result

Population Risk	Your Risk(Relative Risk)
1 in 50	**1.44 times Population Risk**



High Risk

Increased risk for Atrial Fibrillation

Recommendations

1. Maintain a healthy weight.
2. Stick to a heart-healthy diet and exercise at least 3-5 days a week.
3. Avoid excess caffeine and alcohol intake.
4. Get screened every year (ElectroCardioGram or ECG).

Renal Cell Carcinoma

About

Renal cell carcinoma (RCC) or renal adenocarcinoma, is a type of kidney cancer that occurs in the lining of small tubules in the kidneys. Tumours could occur in one or both the kidneys, and can spread to other parts of the body, if aggressive. RCC is usually found as lumps or swelling in the abdomen. In men, varicocele (enlarged veins in the scrotum) is a sign of RCC.

Impact of Genes

Multiple genes which are involved in cell division and tumour suppression have been identified as risk factors for RCC. Variations in the SCARB1 (protein which regulates cholesterol homeostasis and cell signalling) gene, 11q13 region (modulates hypoxia, cell cycle and oncogene transcription), 12p12 region (upregulates BHLHE41 expression, a tumour regulatory gene which triggers cytokines and inhibits apoptosis) and EPAS1 (influences tumorigenesis and RCC development) gene, are the most well-studied, replicated genetic markers which affect risk for RCC.

Your Genetic Result

Population Risk	Your Risk(Relative Risk)
3 in 100	**1.18 times Population Risk**

Medium Risk

Slightly increased risk for Renal Cell Carcinoma

Recommendations

1. Avoid smoking.
2. Include 4-5 portions of fresh fruit and vegetables every day, in your diet. Consume whole grains and high-fibre foods, too.
3. Manage blood pressure and maintain a healthy weight

*If you have an elevated genetic risk or family history, talk to your physician about preventive measures with respect to screening procedures, especially if you are in your fifties or older.

Chronic Lymphocytic Leukemia

About

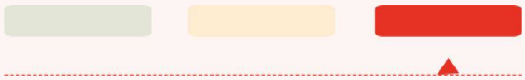
Chronic Lymphocytic Leukemia (CLL) is a cancer that affects bone marrow and blood. It specifically originates in lymphocytes (white blood cells that fight infection) of bone marrow. Abnormal lymphocytes further invade the blood and proliferate in tissues of the immune system such as lymph node and spleen.

Impact of Genes

The 8q24 region is associated with risk for CLL. Studies show that the 8q24 region regulates the expression of MYC proto-oncogene. Other variants which increase the risk for CLL are present in the 15q24 region, IRF4 gene (regulates lymphocyte development and B-cell transition), ACOXL gene, GRAMD1B gene, SP140 gene (regulates antigen response and B-cell function) and the FARP2 gene.

Your Genetic Result

Population Risk	Your Risk(Relative Risk)
5 in 100000	**1.48 times Population Risk**



High Risk

Increased risk for Chronic Lymphocytic Leukemia

Recommendations

1. While there are no specific preventive measures for NHL, it is important to take care of your immunity and avoid infections.
2. Include 4-5 portions of fresh fruit and vegetables every day, in your diet. Consume whole grains and high-fibre foods, too.
3. Exercise regularly and maintain a healthy weight.
4. If you have family history of lymphoma or related conditions, talk to a genetic counsellor for comprehensive risk assessment.

Thyroid Cancer

About

Thyroid cancer is an uncommon cancer caused due to abnormality in the cells of thyroid gland. Thyroid cancer has been categorized into 4 major types - papillary, follicular, medullary, and anaplastic thyroid cancer. Most of the cases have been found to be non-medullary, of maximum the papillary or follicular form. Symptoms of thyroid cancer include formation of lump near the neck and pain in the surrounding region, trouble in swallowing, throaty or hoarseness in voice with persistent cough for a long time.

Impact of Genes

Thyroid transcription factors (TTFs) are key genes/proteins which affect the differentiation of thyroid follicular cells, thereby acting as regulators of thyroid organogenesis. Studies show that the expression levels of the TTF genes is abnormal in thyroid carcinoma tissues. Variants in the 9q22 (near FOXE1 gene) and 14q13 (near NKX2-1 gene) are the most significant genetic risk factors for thyroid cancer.

Your Genetic Result

Population Risk	Your Risk(Relative Risk)
23 in 1000	**1.24 times Population Risk**

Medium Risk

Slightly increased risk for Thyroid Cancer

Recommendations

1. Avoid smoking and exposure to ionizing radiation.
2. Ensure adequate intake of iodine in your diet.
3. Exercise regularly and maintain a healthy weight.
4. If you have family history of thyroid cancer, talk to a genetic counsellor for getting a proper risk assessment.

Parkinson's Disease

About

Parkinson’s disease is a neurodegenerative disorder of the brain that leads to tremors, difficulty with walking, movement, and coordination. Nerve cells use a chemical (neurotransmitter) called dopamine to help control muscle movement. Parkinson’s disease occurs when the nerve cells in the brain that make dopamine are slowly destroyed. It affects both men and women.

Impact of Genes

Parkinson’s diseases is heterogeneous in nature, with many genes influencing its pathogenesis. The PARK16 locus is one of the first findings (and duly named) in SNP association studies for Parkinson's. The PARK16 region also contains the Nuclear Casein Kinase And Cyclin-Dependent Kinase Substrate (NUCKS1). The SNCA gene product is present in Lewy bodies (protein deposits), which are formed during the development of Parkinson's, Alzheimer's and some forms of dementia. These proteins interfere with neurotransmission and signalling in the brain, which causes the patient to lose his/her functionality and thinking abilities.
Another variant that increases risk for Parkinson’s is located near the Methylcrotonoyl-CoA Carboxylase 1 (MCCC1) gene and lysosomal-associated membrane protein 3 (LAMP3) and in the MAPT gene (neurological function and development). The G2019S variant in the LRRK2 gene is also a strong risk factor for Parkinson's disease.

Your Genetic Result

Population Risk	Your Risk (Relative Risk)
1 in 1000	**1.96 Times Population Risk**

High Risk

Increased risk for Parkinson's Disease

Recommendations

1. Since maintenance of brain wellness is an important aspect of preventing Parkinson's disease, ensure regular intake of antioxidant-rich foods which slow down neurodegeneration/cellular ageing, reduce inflammation, combat free radicals (reduce oxidative stress) and boost cognitive abilities. Examples include green leafy vegetables, fresh fruit produce, healthy fats (nuts, fish) etc.).
2. Engage in regular exercise, ensure adequate water intake.
3. Practice stress reduction techniques and get plenty of good quality sleep.

Restless Legs Syndrome

About

Restless Legs Syndrome (RLS) (a.k.a Willis-Ekbom syndrome, coined in 1945), is a sensorimotor disorder, characterized by an unpleasant sensation in the legs (or) uncontrollable urges to move them (occasionally in other limbs as well). It is often circadian, i.e., the symptoms prevail in the evening/around bedtime. RLS patients suffer from disturbed nights, little or no sleep, mental unrest and reduced quality of life. When symptoms aggravate (esp. after evening), it also affects daily activities.
RLS symptoms can manifest right from childhood and severity increases with age (highest in individuals older than 50).

Impact of Genes

Genetic studies have established at least four significant gene loci, whose functions relate to the pathophysiology of RLS. MEIS1 gene encodes a transcription factor linked with limb function, and is involved in limb development in the embryonic stages (children with RLS suffer from what is known as "growing pains"). BTBD9 (broad complex, tramtrack and bric a` brac), is a gene widely expressed in different parts of the brain (hippocampus, cerebellum etc) whose variant is also expressed in patients with low body iron stores (which predisposes to RLS). Another locus lies at the PTPRD gene (protein tyrosine phosphatase, receptor type delta). Studies show that the PTPRD gene is involved in axon guidance and termination of mammalian motor neurons during embryonic development.

Your Genetic Result

Population Risk	Your Risk (Relative Risk)
6 in 100	**1.9 times Population Risk**

High Risk

Increased risk for Restless Leg Syndrome.

Recommendations

1. Maintain regular sleep timings.
2. Avoid excess intake of caffeine and other stimulants (avoid completely, during evening and night).
3. Engage in regular physical exercise. Include plenty of walks and stretching movements.
4. Keep tabs on your iron and ferritin levels.

Ankylosing Spondylitis

About

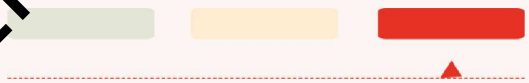
Ankylosing spondylitis (AS) is a chronic, rheumatic, autoimmune disease that manifests with arthritis-like symptoms. It primarily affects the spine, although it can affect other parts like shoulders, hips, ribs, heels, hands, feet, eyes and intestines. It causes swelling and inflammation of the bones and joints at the base of the spine where it connects with the pelvis.

Impact of Genes

In the 2p15 region (near B3GNT2 gene), IL23R gene (alters interleukin signalling), 21q22 region (near PSMG1 gene, this region is linked with autoimmune disease), IL1R2 and ERAP genes (these two are involved in interleukin binding and inflammatory response).

Your Genetic Result

Population Risk	Your Risk(Relative Risk)
4 in 1000	**1.44 times Population Risk**



High Risk

Increased risk for Ankylosing Spondylitis (AS)

Recommendations

1. Maintain a healthy body weight.
2. Engage in suitable exercise for muscle strengthening, increasing bone mineral density, improving spinal mobility, etc.
3. Avoid smoking.
4. Ensure adequate intake of omega-3 rich foods (anti inflammatory foods such as nuts, fish oil), coloured fruits/vegetables (antioxidants), etc.
5. Keep tabs on your calcium and Vit-D levels and ensure adequate intake of these key nutrients for healthy bones.

Asthma

About

Asthma is a chronic respiratory disorder affecting the airways of the lungs. It is characterized by recurrent attacks of breathlessness. The inner lining of the airways swell because of inflammation, narrowing down the passage of airflow for lungs. As a result, the lungs are deprived of, or receive less oxygen.

Impact of Genes

Variants in the 6p21 Major Histocompatibility Complex (MHC) region are directly linked with autoimmune and inflammatory response. Polymorphisms in the HLA-DQ region significantly increase the risk for late-onset (adult) asthma. Other important markers are present in genes which affect interleukin response (inflammation) in the airways, humoral immune response, T-cell development and maintenance, airway hyperresponsiveness, mucus secretion, chemokine synthesis and inflammation, serum IgE levels, etc.

The GSDMB-ORMDL3 block is an important locus for childhood asthma and bronchial hyperresponsiveness (BHR). SNPs in this region alter CpG sites in ORMDL3 and mRNA expression levels in the endoplasmic reticulum, which can activate inflammation.

Your Genetic Result

Population Risk	Your Risk (Relative Risk)
1 in 20	**1.32 times Population Risk**

High Risk

Increased risk for Asthma

Recommendations

1. Minimize exposure to asthma triggers by keeping your environment clean and tidy.
2. Known sources of dust/pollen include rugs, carpets and A/C vents at home.
3. Avoid smoking and reduce exposure to secondhand smoke.
4. Include 4-5 portions of fresh fruit and vegetables every day, in your diet.

Systemic Lupus Erythematosus

About

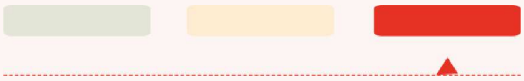
Systemic Lupus Erythematosus, often abbreviated as SLE or lupus, is a systemic autoimmune disease that can affect any part of the body. Lupus most often harms the heart, joints, skin, lungs, blood vessels, liver, kidneys, and nervous system.

Impact of Genes

Genetic variation in the IRF5 gene and the KIAA1542 region (23 kb away from the IFN7 (Interferon Regulatory Factor 7) gene affects autoantibody production and subsequent increase in IFN (interferon)-alpha production). Other variants that increase risk for lupus are present in the STAT4 gene (interleukin signalling and subsequent T-helper cell and monocyte activation, during autoimmune response), the MHC (Major Histocompatibility Complex) region (genetic marker for the HLA-DRB1*0301 allele), the HLA class III locus MSH5 (DNA mismatch repair and meiotic recombination, cell maintenance) and the ITGAM gene (this variant disrupts the phagocytosis mechanism and causes uncontrolled production of cytokines).

Your Genetic Result

Population Risk	Your Risk(Relative Risk)
125 in 100000	**2.57 times Population Risk**



High Risk

Increased risk for Lupus

Recommendations

1. Include fresh fruit and vegetables every day, in your diet. Consume whole grains and high-fibre foods, too.
2. Avoid smoking and excessive sun exposure.
3. Take care of your immunity. Avoid infections from sources such as uncooked meat and water.
4. If you have an elevated genetic risk or family history, talk to your physician about preventive measures.

Atopic Dermatitis

About

Atopic dermatitis is a type of eczema, which is a long lasting itchy inflammation of skin. In most cases, it is accompanied with asthma or hay fever. Although it can affect any area of the skin, it commonly appears on the hands and feet, face, inside the elbows and behind the knees. The symptoms include redness, severe itching, rashes (which upon scratching may lead to weeping clear fluid and crusting), cracking, scaling, thick skin, etc. Atopic dermatitis which occurs in infants, is called infantile eczema, and may continue in childhood and adolescence.

In most cases of atopic dermatitis, there are periods of worsened symptoms (called flares) followed by remission wherein the skin can drastically improve and clear up entirely.

Impact of Genes

Genes involved in epidermal barrier function and innate immunity are involved in the pathogenesis of atopic dermatitis. Variation in the FLG gene (produces filaggrin, an epidermal structural protein) is a major risk factor for the disease. Other markers which increase the risk of disease are present in the 11q13 and 19p13 regions, near the OVOL1 and ACTL9 genes, which are implicated in epidermal proliferation and differentiation.

Your Genetic Result

Population Risk	Your Risk (Relative Risk)
19 in 100	**1.27 times Population Risk**

Medium Risk

Slightly increased risk for Atopic Dermatitis

Recommendations

1. If you have a family history of atopy, talk to your physician for guidelines on disease prevention and management.
2. Keep your skin well hydrated and moisturised (use an emollient daily).
3. Adopt simple measures to minimise/avoid direct skin contact with harsh chemical agents (replace regular soap with a gentler cleanser, wear gloves while using detergents, etc).
4. Minimize exposure to irritants such as dust and smoke.

Vitiligo

About

Vitiligo is a skin disorder that causes the loss of skin color due to the destruction of melanocytes, the cells responsible for producing melanin. Melanin provides pigment to the skin, hair, and eyes, and its loss leads to depigmented patches, which can vary in size and location. Vitiligo manifests as white patches on the skin, and while its exact cause is not fully understood, it is believed to involve autoimmune factors. Treatment options include topical medications, light therapy, and in some cases, surgical interventions.

Impact of Genes

The strongest risk signals have been found in the Major Histocompatibility Complex (MHC) locus (class I, II, III peptides), FOXP1 (forkhead box P1 for lymphoid cell development), TYR (tyrosinase enzyme for melanin biosynthesis) and RERE (regulates apoptosis).

Your Genetic Result

Population Risk	Your Risk(Relative Risk)
5 in 1000	**1.35 times Population Risk**

High Risk

Increased risk for Vitiligo

Recommendations

1. Maintaining immunity levels helps prevent autoimmune disorders, in general. Ensure a nutritious diet rich in antioxidants - B12, beta carotene and minerals (zinc, iron, etc.) have been shown to be important in vitiligo management.
2. Avoid excessive sun exposure. Wear protective clothing (long-sleeved shirts, hats, etc.) under the sun.
3. Use sunblock regularly, with timely re-application.

---- End of report ----