PRECISION HEALTH

PRECISYA



HEALTH

PANEL

NUTRITION

ENGLISH VERSION

What purpose of the exam?

Identify predispositions to specific, common or hereditary clinical conditions. In the Genetic Panel we will identify genetic variations related to some areas that are: Nutrients and Metabolism, Body Composition, Physical Activity, Imbalances and Deficiencies, Intolerances and Dysfunctions and Inflammations and Oxidative Stress. Knowing the genetic profile (polymorphisms) of your patient and the implications of food consumption will give you the necessary tools to make the best decisions related to a personalized clinical approach, aiming to meet the specific needs of each individual.

This report is based on robust and current scientific literature, containing essential information about your genetic material. However, it is not advisable for the patient to make medical and nutritional decisions without adequate professional monitoring.

What does the test allow?

Based on personalized and comparative studies of genes, FullDNA seeks genetic alterations among the billions of information that the patient's DNA carries and informs in detail the predispositions of each individual to develop pathologies and/or deficiencies, as well as specific recommendations and information. for its correction and prevention, whenever such information is available.

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WARNING

The values of the results of genetic tests are not diagnostic, but show trends that are influenced by physiological, pathological conditions, use of medications and other personal conditions of the examinee.

Only your clinician is able to correctly interpret these results and to prescribe the most appropriate treatment for you, and the company is not responsible for any treatment based on the results.

If necessary, our science team is available to discuss the results with the attending clinician upon request.

The genetic test

The genetic test is the most current and advanced technological leap in the health area, mainly for the preventive clinical area, because the DNA is the true Instruction Manual of the individual.

In the DNA are determined, with high precision, all individual needs, susceptibilities and psycho-behavioral, structural, functional and reactional characteristics that an individual has and will have throughout his life.

The genetic test is within the modern disruptive concept of Genetic Identity where the individual can have all the accurate and personalized information necessary to, from there, know what to do to achieve more Health, Vitality, Beauty and Longevity.

The combination of our most advanced genetic mapping techniques, Illumina GSA (Infinium Global Screening Array) and WGS (Whole Genome Sequencing) database analysis, provides the analysis of 80 million SNPs (polymorphisms), with the reading and analysis performed by our own AI (Artificial Intelligence) system, through a complex algorithm, which considers, among other factors, the quantity, presence and magnitude of SNPs related to the analyzed condition, guaranteeing great precision and reliability in data analysis, preparation of reports and interpretation of the individual's genetic profile.

How to interpret:

The results are divided into **Characteristics**, **Needs** and **Susceptibilities**. Each division has categories to facilitate interpretation.

This report is presented in two parts, as well as the graphs:

FIRST PART

The first part interprets the magnitudes of each condition, using an algorithm that considers the following aspects:

- Presence or Absence of Polymorphism
- Amount of Polymorphisms present for the condition
- Magnitude of each Polymorphism
- Validation of the Scientific Base

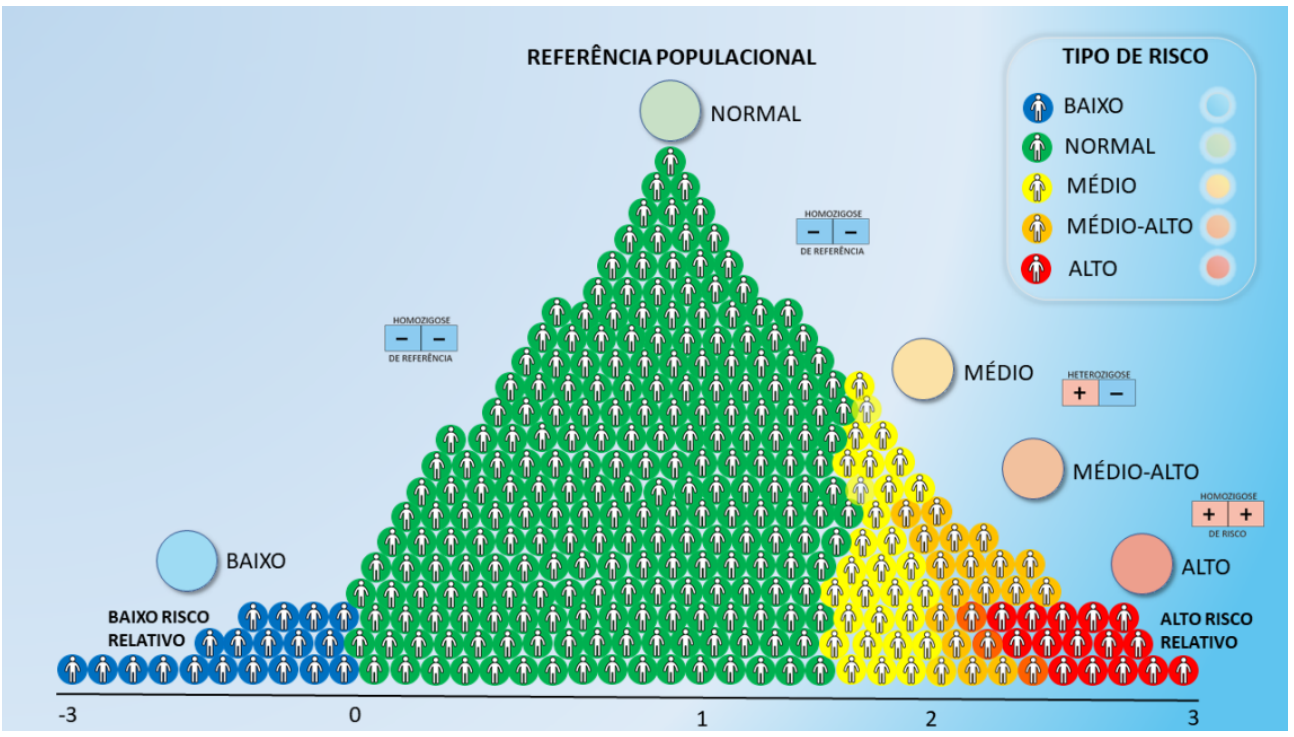
Due to the decimal places of the magnitudes of the results that must be strictly taken into account in the results, we present divisions in the form of colors, as follows:

⚪ indicates that the displayed result is UNDEFINED
🔵 indicates that the result shown is LOW
🟢 indicates that the result shown is NORMAL
🟡 indicates that the result shown is MEDIUM-NORMAL
🟠 indicates that the result shown is MEDIUM-HIGH
🔴 indicates that the result shown is HIGH

The differentiation between LOW and NORMAL is essential. NORMAL results often refer to the majority of the population, in which the incidence of Needs or Susceptibilities is considered normal. LOW results refer to the predisposition to lack or low susceptibility, which it's not the same as normal susceptibility.

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PART TWO

The second part of the report is a more complete detail of the first part, that is, it presents important information based on the patient's result for each condition

As in the first part, risk factors are separated by color, such as:

Risk factor	Risk factor	Risk factor	Risk factor	Risk factor	Risk factor
UNDEFINED	LOW	NORMAL	MEDIUM-NORMAL	MEDIUM-HIGH	HIGH

ATTENTION! THE RESULTS CONTAINED IN THIS EXAM SHOULD BE INTERPRETED AS INDICATORS AND NOT AS A DIAGNOSIS. ANY TREATMENT OR DIAGNOSIS MUST BE DONE BY A TRAINED PROFESSIONAL.

Information specific to each condition, such as Recommendations, Observations, specific information about the genes and genes analyzed, will be presented shortly after a brief description of the disease. This information varies depending on the patient's outcome.

Once FullDNA panel has the ability to track many genes and polymorphisms for each condition (example vitamin A), in order to facilitate and simplify the interpretation, in the second part of this report, we demonstrate in detail the 5 (five) Most Significant Genetic Alterations that influenced the result of that condition.

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CUSTOMIZED GENES LIST

Gene	Variation	SNP	Result	Description
ADIPOQ	c.-1138A>G	rs17300539	GG	ADIPOQ is a hormone that acts on the muscles' ability to use carbohydrates. It also increases fat metabolism and satiety. There is a relationship between individuals with lower levels of ADIPOQ and being overweight as it can cause more appetite. Individuals with the GG and AG genotypes are associated with greater ease in regaining weight after a calorie-reduction diet, because of the lower productions of adiponectin. The G allele is also associated to increased triglyceride levels, higher insulin resistance and increase risk of metabolic syndrome. AA allele is associated with normal susceptibilities.
ADRB2	c.46A>G (p.G16R)	rs1042713	GG	The A allele is associated with increased asthma symptoms in severe asthma cases. GG genotype is associated with a higher risk of breast cancer in non-hispanic women. Also the G allele indicates an increased vasodilation during exercise, causing an increased VO2 Max. ADRB2 acts on lipolysis, which means the consumption of energy stored in adipocytes. Subjects with the GG genotype have greater difficulty in losing weight and also in regaining weight after a low-calorie diet. Carriers of the GG genotype benefit most from reduced fat intake to lower LDL cholesterol. These individuals can still retain more fluid because they are more sensitive to salt.
AHR	g.17284577T>C	rs4410790	CT	The AHR protein increases the production of CYP1A1 and CYP1A2 enzyme that break down caffeine. The C allele (TC or CC) is associated with less caffeine consumption. Individuals with TT genotype are associated to a higher daily intake of coffee.
ALDH2	g.42076G>A	rs671	GG	Individuals with AA genotype are more likely to present hangover effects and flush (redness), compared to individuals with G (AG and GG) allele. The A allele is more common in asian people.
APOA5	c.-620C>T	rs662799	AA	Individuals with the G (AG and GG) allele are associated to reduced APOA5 protein levels. APOA5 expression is related to hepatic lipid metabolism. G allele is also related to higher tryglycerides. AG genotype is related to less weight gain on high fat diets. GG genotype is related to higher heart attack risk and less weight gain on high fat diets. Subjects with G allele and with impaired glucose showed a greater increase in triglyceride and apolipoprotein A5 when they substituted whole grains and legumes with refined rice. This group benefits with reduced fat diets. Apolipoprotein A5 is the protein that is encoded by the APOA5 gene. It plays an important role in regulating the level of triglycerides in blood plasma. The gene polymorphisms are associated with a change in the triglyceride level. In the case of rs662799 and rs3135506 oligonucleotide mutations, there is a decrease in the amount of apolipoprotein A5 and, as a result, there is an increase in the level of triglycerides and VLDL in human blood. Therefore, the risk of atherosclerosis and cardiovascular diseases increases. The AA genotype is associated to normal on above conditions. But it's important to analyse other polymorphisms associated with each one of these conditions.

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Gene	Variation	SNP	Result	Description
APOB	c.-965A>G	rs512535	GG	The GG genotype is associated with Metabolic Syndrome risk. In addition a high monounsaturated fat (MUFA) intake increased Metabolic Syndrome risk. Low-fat consumers showed reduced Metabolic Syndrome risk. The genotypes AA and AG are associated with normal susceptibility.
APOC3	3175C>G	rs5128	CG	The C (CG and CC) allele is associated with increased triglycerides, cholesterol and glucose levels in diabetics. The GG genotype is associated with normal susceptibility.
APOE	E1/E2/E3/E4	rs429358 / rs7412	E2/E2	The ApoE gene encodes the apolipoprotein E protein, which provides the absorption of cholesterol through B- and E-receptors and promotes the absorption of VLDLP (very low-density lipoprotein) by the liver. The missense mutations rs429358 and rs7412 affect the cholesterol metabolism and cause a deterioration of the cholesterol removal process. In the case of the ApoE3/E3 genotype, the risk of atherosclerosis is minimal, while, in the case of the ApoE4/E4 genotype, it is the highest. Also the The E4/E4 version of the APOE gene increases an individual's risk for developing late-onset Alzheimer disease.
BCO1	g.81264597T>G	rs6564851	TT	Individuals with GG and GT genotypes present a reduced activity of BCO1 gene, reducing the availability of retinol (Vitamin A) but also increasing plasma concentration of antioxidant caratenoids (beta-carotene) that protects agains chronic diseases. TT genotype is associated with normal BCO1 gene activity.
BDNF	Val66Met (G196A)	rs6265	GG	BDNF supported the survival of existing neurons and encouraged growth and differentiation of new neurons and synapses. The most commonly studied polymorphism of BDNF is Val66Met (rs6265). Some studies found an association between rs6265 and antidepressant response. The A allele may be protective against depression. rs6265, also known as Val66Met, is a SNP in brain-derived neurotrophic factor BDNF gene. The more common G allele encodes the Val, while the A allele encodes Met. The A allele is also associated with introversion. Woman with AA genotype showed lower body mass index (BMI) than G allele carriers. Also A allele is associated to a faster mental decline in Alzheimer patients.
CAT	C-262T	rs1001179	AA	CAT is a common antioxidant enzyme present almost in all living tissues that utilize oxygen. It uses iron or manganeses as a cofactor and catalyzes the degradation or reduction of hydrogen peroxide (H2O2) to water and oxygen, completing the detoxification process imitated by SOD. The A (AA and AG) allele is related to a decreased transcription of CAT gene. G (GG and AG) allele is related to an increased transcription of CAT. Individuals with A (AA and AG) allele have an increased risk of Type 2 Diabetes, as well myorcardial infarction following cardiac surgery, but also shows an increased visual acuity. The AA genotype might affect the regulation mechanism involved in the antioxidant system in the liver.

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Gene	Variation	SNP	Result	Description
CBS	C699T	rs234706	GG	CBS acts in a chemical pathway and is responsible for using vitamin B6 to convert building block of proteins (amino acid) called homocysteine and serine to a molecule called cytathionine. The A allele helps to keep the homocysteine levels normal, despite the effect of an eventual reduced MTHFR enzyme activity. The A allele will not affect other potential issues relating to folate metabolism however the formation of DNA and neurotransmitters can be influenced by other genes. The AA and AG genotypes are associated with increased LDL and triglyceride levels.
CELSR2	c.*1635G>T	rs629301	AA	The CC genotype is associated with increased LDL cholesterol levels.
CETP	Ile405Val (RSAI405V)	rs5882	AG	The CETP gene is one of the main lipid metabolism genes, as it encodes the cholesterol ester transporter protein, that is, the gene translates “good” HDL cholesterol into “bad” LDL (low-density lipoprotein). The rs5882 SNP is a cause of alteration in the primary structure of the protein, resulting in a decrease in HDL and an increase in LDL, that is, in atherosclerosis and in ischemic heart and vessel diseases. The AA genotype is related to higher CETP gene activity and lower risk of early acute myocardial infarction in men. The same AA genotype is also associated with greater aging. This same allele is related to higher levels of HDL in adolescents. Allele G is related to lower CETP activity and higher HDL levels. Likewise, the G allele (AG and GG) is associated with lower risk of Alzheimer's and dementia. However, the G Allele (AG and GG) is related to a higher risk of acute myocardial infarction in men, higher HDL levels and lower triglyceride concentration.
COMT	c.472G>A (Val158Met)	rs4680	AG	Catechol-O-methyl-transferase (COMT) is an enzyme responsible for the degradation of catecholamines, such as dopamine Individuals with AA genotype are associated with positive emotions in pleasant events. A allele subjects (AA and AG) tends to be more creative and resistant to distractions. Also A allele individuals showed better reading comprehension, better cognitive function when not under stress, lower risk for alcoholism, advantages in memory and attention tasks. Also A subjects have a worse handling of stress or pain. Some studies also associate AA genotypes with panic disorder and phobic anxiety, more impulsiveness, less extrovertion, higher ADHD. The G allele (Val) is also called Warrior. Val, less exploratory, higher COMT enzymatic activity, therefore lower dopamine levels; higher pain threshold, better stress resiliency and pain, better at learning languages, can more easily get into hypnosis, albeit with a modest reduction in executive cognition performance under most conditions, such as processing information. GG subjects are associated to more childhood depressive symptoms. GG genotype is associated to more methylation in the gut. Also GG are associated to overeat. The genotype AG is associated with intermediate dopamine levels.
CRY1	c.-562G>C	rs2287161	- -	The G (CG and GG) allele is associated to mood disorders. GG genotype individuals are associated with an increase in carbohydrate intake and a significant increase in homoeostatic model (HOMA-IR) for insulin resistance fasting insulin.
CYP1A1	c.1694G>A	rs2470893	GG	The AA genotype is associated with higher coffee consumption and with increased blood pressure.

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Gene	Variation	SNP	Result	Description
CYP1A2	(-164A>C)	rs762551	AC	This SNP encodes CYP1A2*1F allele of the CYP1A2 gene. CYP1A2 is an enzyme responsible for the metabolism of caffeine and some drugs. The AA genotype is related to faster caffeine metabolism and also higher coffee consumption.
DAO	G4586T	rs2052129	CC	Subjects with CC genotype were related to selective hypersensitivity to Ibuprofen. AA genotype is related to intolerance to Histamine, due to DAO deficiency. When DAO levels are too low, it's difficult for your body to efficiently metabolize and excrete excess histamine, causing increased levels.
FADS1	c.*53A>G	rs174546	CC	The FADS1 gene synthesizes the fatty acid desaturase 1 protein (FADS), which is able to synthesize important polyunsaturated fatty acids (eicosapentaenoic and arachidonic acids) from omega-3 substrates and omega-6, respectively. In other words, the gene controls the metabolism of fatty acids in the body. The CC genotype is associated with a decrease in the level of omega-3 fatty acids, an increase in the relative level of omega-6 fatty acids and the concentration of transunsaturated fatty acids, resulting in the development of coronary heart disease, type II diabetes mellitus, metabolic syndrome and obesity.
FTO	c.46-23525T>A	rs9939609	TT	The FTO gene encodes the protein that participates in energy metabolism, oxidative reactions and the metabolism of fatty acids. Individuals with the A allele are associated with an increase in the body mass index (BMI) and obesity. The excessive expression of FTO is associated with a higher food intake and subsequent increases in body weight and fat, assuming that the level of energy expenditure and physical activity remain unchanged. The A alele (AA and AT) is associated with obesity and type 2 Diabetes risk. The TT genotype is associated with reduced obesity and type 2 diabetes risk.
FUT2	c.772G>A (p.Gly258Ser)	rs602662	AG	The FUT2 gene encodes protein fucosyltransferase 2, which is involved in the synthesis of Lewis blood group antigens. These antigens contribute to the attachment of gastric pathogens to the stomach mucous membrane which can affect the vitamin B12 absorption. The vitamin B12 deficiency, observed with a poor vitamin absorption in the intestine, is associated with anemia, cardiovascular diseases, cancer and neurodegenerative disorders. Individuals with AA genotype have an increase in B12 in the blood and reduced the risk of impaired Vitamin B12 absorption in the intestine. Individuals with AG and GG genotypes may have lower Vitamin B12 levels.
GC	c.1296T>G	rs7041	GT	Individuals with G (GT and GG) allele are associated to lower responders to Vitamin D supplementation in some populations. Also GG genotype is associated with lower risk of Parkinson's Disease. Ex-smokers individuals with TT genotype are at increased risk for Chronic Obstructive Pulmonary Disease. Studies mention that vitamin D supplementation may be warranted in patients with severe COPD, and especially in those carrying T alleles.
GCKR	c.1423-418T>C	rs780094	AG	Beneficial effects of whole-grain foods on insulin homeostasis are diminished in AA carriers, via the strong effect of GCKR variant on both triglyceride and glucose levels. Carriers of G allele have more benefit of whole-grain foods on insulin homeostasis.

Gene	Variation	SNP	Result	Description
GHRL	g.172175074C>G	rs490683	--	Subjects with C allele are associated with lower ghrelin production. Individuals with GG genotype are associated to higher glucose levels on fasting.
GHRL	Leu72Met	rs696217	--	Subjects with T (GT and TT) allele are associated with decreased fasting plasma ghrelin, which is negatively correlated with body mass index and insulin secretion. Therefore subjects with T allele have a higher risk of obesity than GG individuals.
GPX1	C-1040T	rs3448	CT	Individuals with T allele (CT and TT) are associated with higher plasma concentrations of isoprostane and advanced oxidation protein products, meaning a worst oxidative stress susceptibility.
GRK4	c.194G>T (R65L)	rs2960306	GG	Individuals with TT and GT genotypes are associated with Hypertension.
GSTM1	g.110252472A>G	rs366631	CT	Individuals with TT genotype and null status (double deletion) are associated with deletion. CT and CC genotypes means that at least one functional GSTM1 gene copy is present. The TT genotype (null phenotype) indicates a slight risk factor for certain cancers based on increased sensitivity to particular chemical carcinogens and increased oxidative stress.
GSTP1	Ile105Val (c.313A>G)	rs1695	GG	GSTP1 encodes a protein which detoxifies xenobiotics by their joining glutathione contained in erythrocytes. The GG genotype leads to a decrease in the enzyme activity and, consequently, to an increased sensitivity to carcinogens and toxins, and their increased accumulation in the body.
GSTT1	c.*101	rs4630	TT	The GSTT1 gene plays an important role in detoxification and scavenging of reactive oxygen species (ROS). A null variant in this gene and CC and CT genotypes has been shown to confer cancer susceptibility. Individuals with the TT genotype are within the normal population.
HFE	C282Y	rs1800562	GG	The A allele (AA or AG) is associated to a higher risk of hemochromatosis, an iron overload condition in which mutations of certain genes involved in iron metabolism disrupt the body's ability to regulate uptake of iron, causing increased intestinal iron absorption. The most common form is caused by mutations in the HFE gene, which are inherited recessively. GG genotype is associated with most part of population, indicating normal susceptibility.
HLA	4126892A>G	rs2858331	TT	The rs4988889(T), rs2858331(C) haplotype was used to determine the presence of DQ2.2 and the rs4988889(T), rs2858331(T) haplotype was used to determine DQ2.5.
HLA	HLA-DQ2.2	rs4713586	TT	The TT genotype is not associated with Celiac Disease.
HLA-DQA1	HLA-DQA1	rs2187668	GG	The A allele is associated with Celiac Disease. This allele is also associated with Lupus.
HLA-DRA	HLA-DRA	rs2395182	TT	Individuals with TT genotype are associated with Celiac Disease.
IL-1A	(-889C>T)	rs1800587	CT	Individuals with TT genotype are associated with larger waist circumference, compared to CC. Also T allele is associated with invertebral disc disease.

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Gene	Variation	SNP	Result	Description
IL-1RN	1018T>C	rs4251961	CC	IL-1RN modulates the biological activity of the proinflammatory cytokine interleukin-1 (IL-1) and may play an important role in the pathophysiology of inflammatory and metabolic traits. The C allele is associated with lower levels of IL-1RA concentration and is associated with an elevated level of IL-1β and may also be associated with serum levels of interferon-γ, α-2 macroglobulin and adiponectin. In humans, measurable serum IL-1RA levels increase with age and are associated with peripheral arterial disease, unstable angina, and poorer physical functioning in old age. The difference in mean IL-1RA concentrations observed when comparing individuals homozygous for the C allele (CC) with those homozygous for the T allele (TT) and heterozygous CT are associated with intermediate levels of IL-1RA, higher than those homozygous for the TT allele .
LDLR	c.67+2015G>T	rs6511720	GG	The T allele has been identified as being associated with lower plasma levels of LDL-C and a lower risk of coronary heart disease (CHD). The GG genotype is the most common and is related to normality.
LIPC	c.-557C>T	rs1800588	CC	Individuals with T allele are associated with Higher HDL levels. The CC genotype is the most common and is related to normality.
LPL	HINDIII (c.1322+483G>T)	rs320	GT	This variant has been associated with protective effect, meaning that GG and GT genotype individuals are associated with lower Triglycerides levels. TT is associated with most part of population.
MAOA	R297R / Arg297Arg	rs6323	GG	Individuals with G (GG and GT) allele are associated with higher activity of Monoamine Oxidase A, which degrades dopamine, serotonin, epinephrine and norepinephrine. TT genotype is associated with reduced MAOA activity. Allele G (GG and GT) is also associated with depression.
MC4R	c.751C>A (p.Leu251lle)	rs52820871	TT	Individuals with the G (GG and GT) allele are associated with reduced risk of Obesity. The TT genotype is present in most part of population.
MCM6	1391C>T	rs4988235	AG	The MCM6 gene helps control the expression of a nearby LCT gene, which encodes lactose protein, an enzyme capable of digesting lactose contained in milk and dairy products. The CC genotype indicates lactose intolerance in adults.
MTHFD1	c.1958G>A (p.Arg653Gln)	rs2236225	CC	Individuals with T (TT and CT) allele, in special premenopause women, are associated with the need of Choline supplementation. Also T (TT and CT) allele individuals are associated to a lower risk of colon cancer. CC genotype is associated to a worst methylation and higher cancer risks.
MTHFR	MTHFR A1298C	rs1801131	AC	The MTHFR gene encodes the methylenetetrahydrofolate reductase protein, which participates in the metabolism of folic acid, necessary for converting homocysteine to methionine and further into S-adenosylmethionine, which plays an important role in the DNA methylation process. As a result of the rs1801133 polymorphism, allele C (CC and CG), the metabolic pathway of homocysteine transformation is disturbed and its content in plasma increases. High homocysteine levels increase the probability of atherosclerosis, thrombosis and type 2 diabetes mellitus.

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Gene	Variation	SNP	Result	Description
MTHFR	MTHFR C677T	rs1801133	CC	Homozygous rs1801133(TT) individuals have around 30% of the expected MTHFR enzyme activity and rs1801133 (CT) heterozygotes have around 65% activity, compared to the most common genotype, rs1801133(CC). The activity is related to the efficiency in processing folic acid. If low efficiency is present, for example TT genotype, indicates high homocystein, low folate levels and low Vitamin B12. Reduced MTHFR activity may lead to several types of cancers. Women with TT genotype have a higher risk of osteoporosis.
MTNR1B	c.223+5596C>G	rs10830963	CC	Individuals with G (GG and CG) allele are associated to increased susceptibility of Type-2 Diabetes.
MTR	2756A>G	rs1805087	GG	The G allele (AG and GG) is associated to the production of methionine from homocysteine, meaning an increased function and higher DNA methylation level. The G allele is also associated to a higher Prostate Cancer susceptibility in men.
MTRR	A66G	rs1801394	AA	The G (AG and GG) allele is associated with worst methylation. Also individuals with G allele are associated with need of choline and B12 supplementation.
MYRF	g.37572G>T	rs174537	GG	Subjects with G (GG and GT) allele are associated with higher LDL cholesterol. Individuals with TT genotype are associated to lower LDL. Also TT genotype individuals are associated to lower levels of arachidonic acid, meaning also decreased risk of prostate cancer in men and decreased Type-2 Diabetes susceptibility. Also T (GT and TT) allele individuals have a decreased risk of gengivitis. The G (GG and GT) allele individuals have an increased level of arachidonic acid and this relates to a higher susceptibility of prostate cancer in men. Also G allele subjects have increased susceptibility to develop Type-2 Diabetes and coronary artery disease. Also G individuals might have an increased susceptibility of gengivitis.
NADSYN1	c.146+1233T>G	rs12785878	GG	Individuals with GG and GT genotypes are associated to an increased need of Vitamin D supplementation.
NBPF3	g.21786068C>T	rs4654748	CT	The NBPF3 gene belong to the hydrolase group—alkaline phosphatase—necessary for the association with the synthesis of neurotransmitters in the central nervous system (CNS). One of such neurotransmitters is gamma-aminobutyric acid (GABA). Vitamin B6 affects its synthesis. In other words, the alkaline phosphatase deficiency leads to the vitamin B6 deficiency in the central nervous system, and, therefore, causes neurological defects, as vitamin B6 is important for the brain development and functioning. The vitamin B6 deficiency is observed in the case of CC and CT genotypes.
NOS3	894G>T (Glu298Asp)	rs2070744	TT	The C (CC and CT) allele is associated to Rheumatoid Arthritis risk and a slightly increase in Prostate Cancer. Men with C allele responded favorably to antihypertensive effects of aerobic exercise. Individuals with C allele are associated with greater amounts of nitric oxide, due to the greater production of mRNA.
NQO1	C609T (Pro187Ser)	rs1800566	CC	The TT genotype is associated with reduced Detoxification. CC and CT genotypes are associated with normal detoxification CT genotype is also associated with reduced risk of lung cancer.
NR1D1	c.31+723C>T	rs12941497	AG	The AA genotype is associated with Night Chronotype.

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Gene	Variation	SNP	Result	Description
OXTR	c.922+4581T>C	rs53576	AA	A food addiction or eating addiction is a behavioral addiction that is characterized by the compulsive consumption of palatable (e.g., high fat and high sugar) foods which markedly activate the reward system in humans, despite adverse consequences. The GG genotype is associated to a decreased susceptibility of food addiction. The A (AA and AG) allele is related to a higher susceptibility to food addiction.
PCSK1	c.2069C>G (p.Thr690Ser)	rs6235	--	The CC genotype is associated with increased BMI (Body Mass Index).
PEMT	G523A	rs7946	CT	The T allele (TT and CT) individuals are associated to an increased susceptibility of Non Alcoholic Fatty Liver Disease.
PER2	G3853A	rs934945	--	Subjects with G allele (AG and GG) are associated with diurnal preference.
PNPLA3	c.444C>G	rs738409	GG	The C allele is associated with NALFD susceptibility. The GG genotype is associated with decreased susceptibility of NALFD.
PON1	Q192R	rs662	AG	The A allele (AA and AG) is associated with increased susceptibility to cardiovascular disease.
PPARG	c.34C>G (Pro12Ala)	rs1801282	CG	rs1801282 C allele is associated with increased sensitivity to insulin, total cholesterol, HDL (high-density lipoprotein) and increased glucose utilization, which serves as a protective mechanism against diabetes mellitus and obesity. The G allele (CG and GG) is associated with increased resistance to insulin. Carriers of G allele must check the quantity of fats on diets.
PROX1	c.-68_2590T>C	rs340874	AG	Individuals with GG are associated with higher free fatty acids levels after high-fat meal and lower use of glucose after high-carbohydrate meal but higher blood glucose concentrations. Also GG is associated with higher visceral fat accumulation even with lower daily food consumption. AG and especially GG individuals are associated with lower glucose utilization after carbohydrate ingestion.
QPCTL	c.886+14T>C	rs2287019	CC	The T alelle (CT and TT) is associated with greater improvement of glucose homeostasis in individuals with a low-fat, high-carbohydrate and high-fiber diet. The CC genotype is associated with a increased BMI.
SLC2A2	c.329C>T (Thr110Ile)	rs5400	TT	The T allele (TT and CT) is associated with a higher intake of carbohydrates.
SOD2	(Ala16Val)	rs4880	CT	MnSOD (rs4880) participate in the oxidation of xenobiotics entering the body with food. The MnSOD gene (also known as SOD2) codes superoxide dismutase, which binds to the by-products of oxidative phosphorylation and converts them into hydrogen peroxide and diatomic oxygen. In other words, the enzyme destroys xenobiotics which are toxic for the body. The rs4880 polymorphism, C allele, is associated with a decreased enzyme activity, an increased cellular damage and an increased risk of diseases associated with higher Oxidative Stress, DNA damage, cardiovascular diseases and malignant tumors. The C allele is associated with more Oxidative Stress, higher intolerance to phtalates. The CC genotype is associated with higher chances of prostate cancer in men, specially those with low lycopene levels. The T allele is associated to Type 1 Diabetes, Atherosclerosis and Impaired recovery after exercise.

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Gene	Variation	SNP	Result	Description
TCF7L2	g.114808902G>T	rs12255372	GG	TCF7L2 encodes a protein that acts as a transcription factor and participates in the formation of pancreatic β-cells producing insulin needed to reduce blood sugar. The GT and TT genotypes are associated to a high risk of type 2 diabetes mellitus.
TERF2	IVS7-41T>C	rs251796	--	The GG and AG alleles are associated with telomere shortening and increased risk of lung cancer.
TF	Pro570Ser	rs1049296	CT	The TT genotype has a protective association with Parkinson's disease. Also TT and CT genotypes may indicate a slightly increase of risk for Alzheimer Disease.
TM6SF2	c.499G>A (E167K)	rs58542926	CT	Higher fiber intake may indicate protection against type 2 diabetes among CC allele carriers. Individuals with the T allele (CT and TT) have increased susceptibility to Non-Alcoholic Fatty Liver Disease and also Type 2 Diabetes.
TMPRSS6	V736A	rs855791	TT	The CC genotype exhibits higher serum iron and lower hepcidin compared to T allele carriers. Homozygous (CC) individuals on high protein diets showed higher serum iron and transferrin saturation. CT and TT individuals may also have a slight decrease in hemoglobin.
TNF	(-308G>A)	rs1800629	GG	The A allele (AA and AG) is associated with an increased susceptibility to inflammation. Individuals with the A allele are also more susceptible to asthma. Carriers of the AA genotype are also associated with an increased risk of Crohn's Disease and Graves' Disease.
VDR	Taq1	rs731236	CT	The TT genotype is associated with increased levels of VDR. Also CC genotype is associated with gum disease susceptibility. C allele is associated with decreased levels of VDR and higher Parkinson's Disease susceptibility. Also on TT genotypes calcium consumption is associated with decreased breast cancer susceptibility. The opposite occurs with C allele individuals, as calcium consumption is associated with increased breast cancer susceptibility in women.
VDR	Bsm1	rs1544410	AG	The active form of vitamin D inhibits the development of breast, colon and prostate cancer, has a positive effect on the cardiovascular system and prevents autoimmune diseases. The VDR gene synthesizes the protein, vitamin D receptor, which participates in the metabolism of calcium and phosphates essential for bones and teeth. Individuals with AA genotype are associated to a decreased receptor sensitivity to Vitamin D, therefore there is an increase in the calcium removal from bones, resulting a decrease in the mineral bone density and risk of osteoporosis. AG genotype indicates a medium risk of low bone mineral density disorders.
VDR	Fok1	rs2228570	CC	The FokI polymorphism of VDR gene is associated with vitamin D deficiency. The T allele is associated with lower VDR activation that indicates lower levels of VDR. T allele is associated with increased risk of Parkinson Disease in some populations. Also TT genotype is associated with increased risk of Breast Cancer. The CC genotype is associated with dyslipidemia, higher LDL cholesterol and cardiovascular problems.

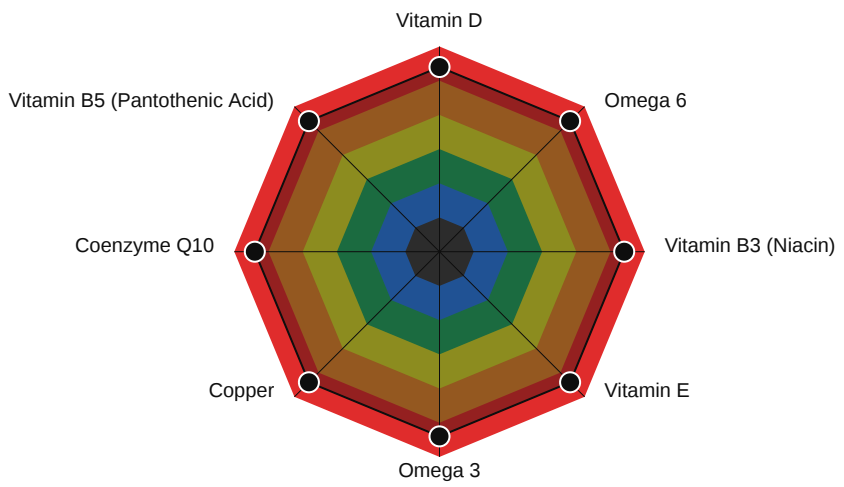
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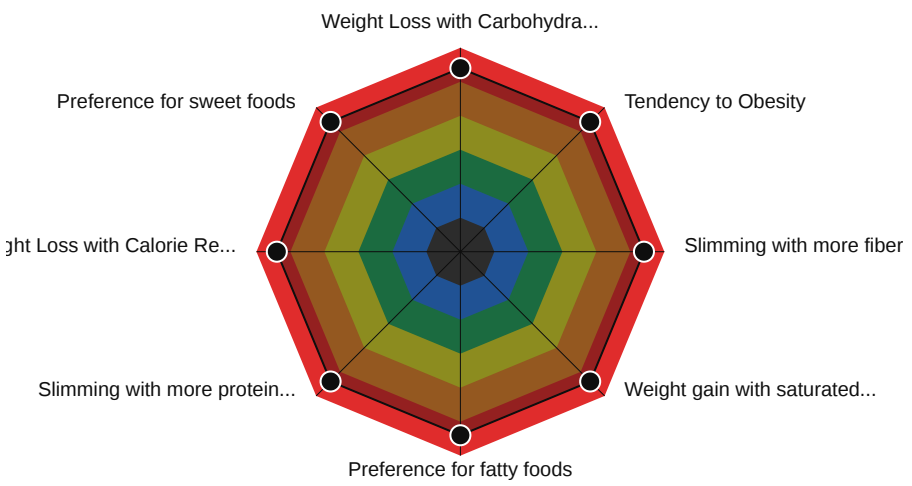
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MOST RELEVANT CONDITIONS BY CATEGORY

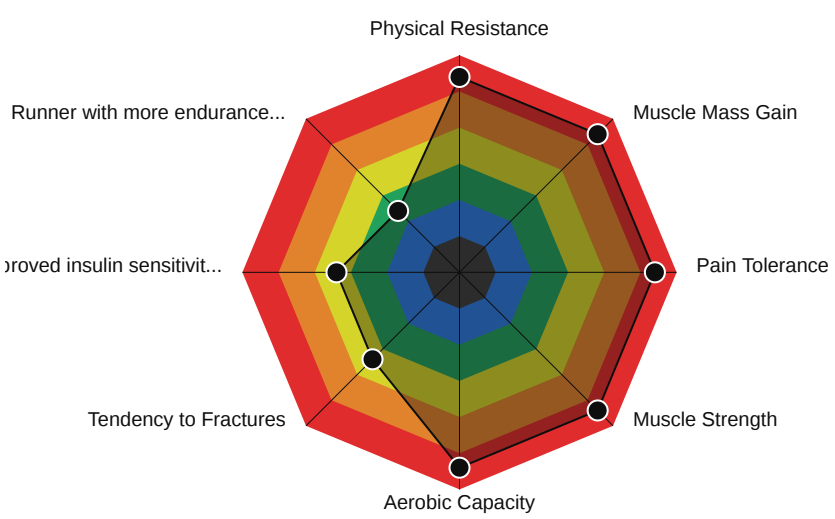
NUTRIENT NEEDS AND METABOLISM



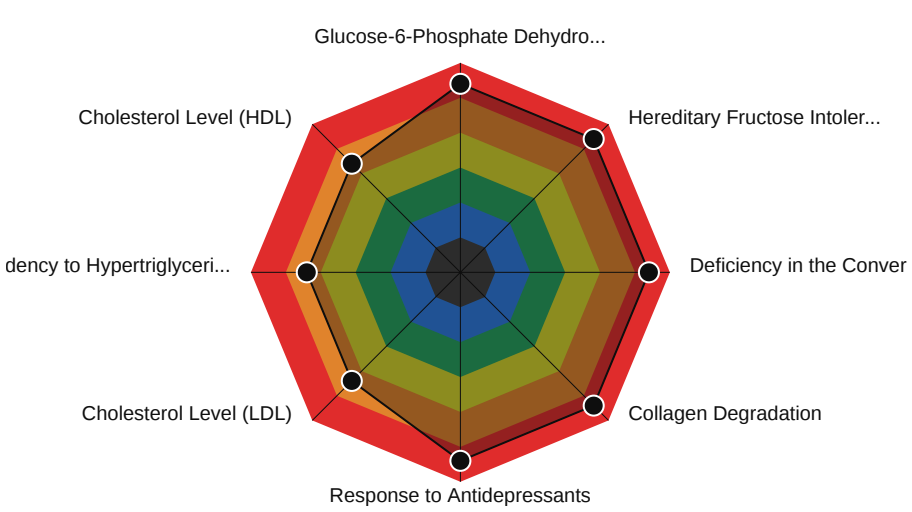
BODY COMPOSITION



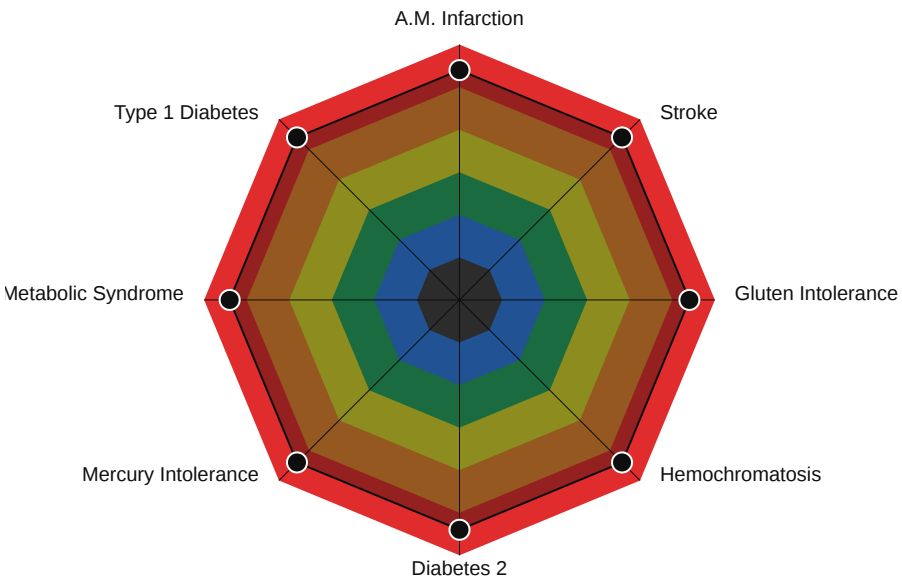
PHYSICAL ACTIVITY



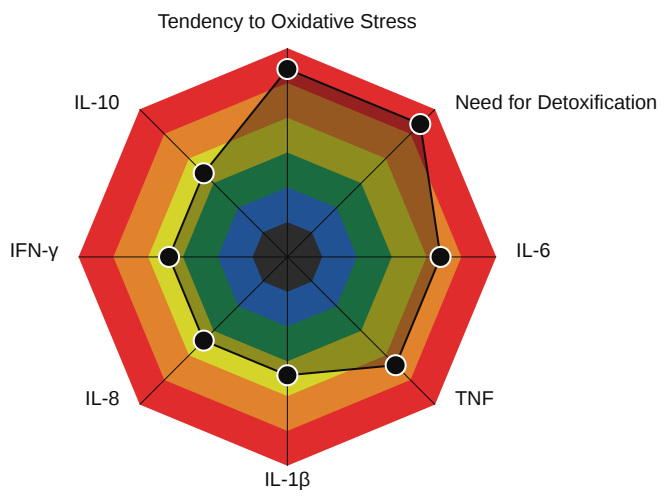
IMBALANCES AND DEFICIENCIES



INTOLERANCES AND DYSFUNCTIONS



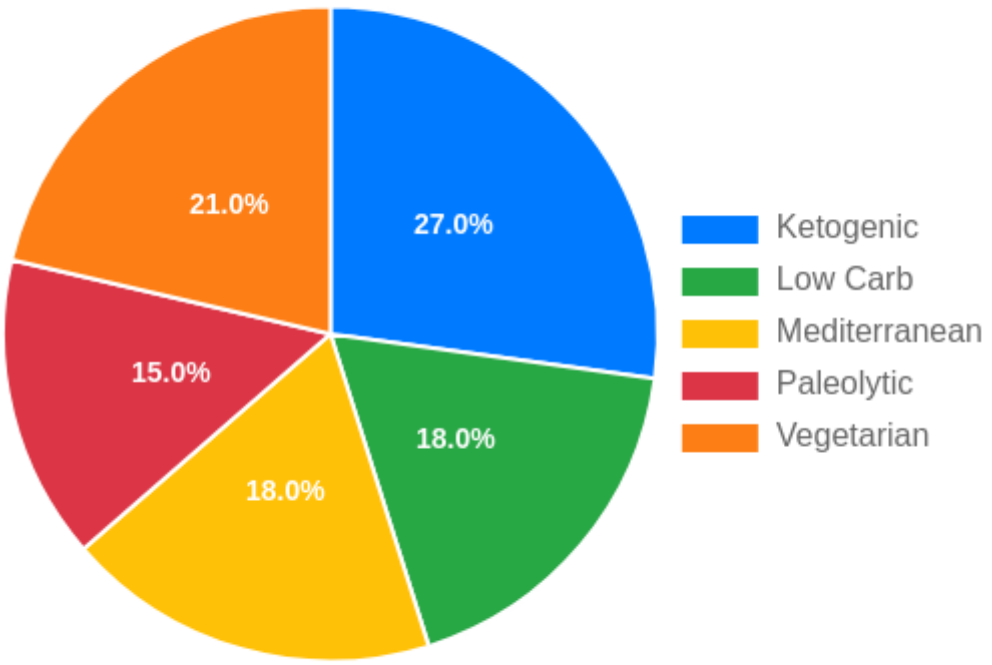
INFLAMMATION AND OXIDATIVE STRESS



Name: Sample		
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Sample

MOST RECOMMENDED DIET ACCORDING TO YOUR GENETICS



RECOMMENDED

Fruits
Avocado, Coconut, Açai, Melon, Watermelon, Strawberry, Tomato, Lemon, Peach

Vegetables and Tubers
Aspargus, Zucchini, Eggplant, Pepper

Grains
Peanut

Nuts, Nuts and Seeds
Walnuts, Brazil Nuts, Almonds, Pumpkin Seeds, Flaxseed, Chia Seeds

Vegetables
Arugula, Spinach, Lettuce, Broccoli, Kale, Cauliflower

Others
Mushrooms, Eggs, 70% Cocoa Chocolate, Popcorn

Oils
Olive Oil, Sunflower Oil

Dairy
Cottage Cheese, Ricotta Cheese, Natural Yogurt, Butter

Drinks
Coffee, Tea, Almond Milk

Meat and Fish
Skinless Chicken, Turkey Breast, Bacon, Meat (withou fat), Beef, Ground beef, Lamb meat, Salmon, Tuna, Tout, Sardines, Seafood

TO AVOID

Fruits
Blueberry, Banana, Mango, Kiwi, Guava, Papaya, Orange, Apple, Passion Fruit, Dates, Dry Fruits

Vegetables and Tubers
Carrot, Beet, Pumpkin, Cassava, Potatoes, Sweet Potatoes

Grains
Green Beans, Lentils, Peas, Chickpeas, Corn

Nuts, Nuts and Seeds
Cashew Nuts, Quinoa, Barley, Oat

Others
Tapioca, Margarine

Oils
Soy Oil

Dairy
Skimmed Milk

Drinks
Sodas, Beet juice, Orange juice, Glass of Wine, Alcoholic Drinks

Processed Meats
Ham, Sausages and Salami

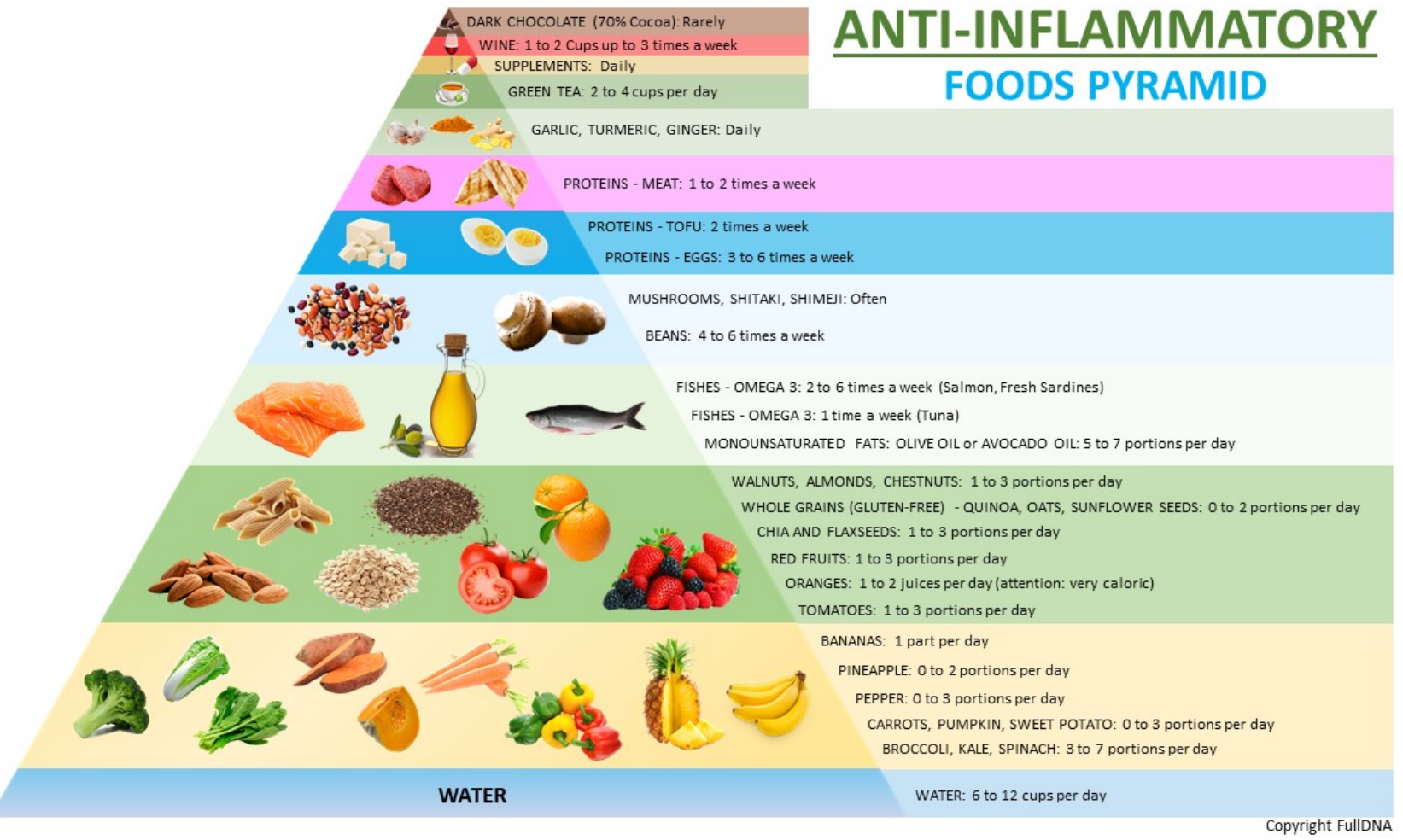
Carbohydrates, Refined and Whole
Bread, Whole Grain Bread, Pizza, Rice, Brown Rice, Wheat Flour, Sugar, Sweets, Biscuits

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ANTI-INFLAMMATORY DIET

You may have a high need for an anti-inflammatory diet!



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Sample

SUMMARY OF RESULTS

Nutrient Needs and Metabolism

Condition	Risk factor	Recommendations
Choline	MEDIUM-HIGH	Patient presents an increased risk for the low level of choline. Reassess choline intake and verify the need for greater intake.
Benefit of Turmeric (Curcumin)	MEDIUM-NORMAL	Tendency to benefit from eating Turmeric.
Vitamin A	NORMAL	Consume the RDA of vitamin A daily.
Vitamin B1 (Thiamine)	MEDIUM-HIGH	Make sure you consume adequate Vitamin B1 and, if necessary, dose serum B1 (Thiamine Serum).
B12 vitamin	MEDIUM-HIGH	Focus on consuming bioavailable sources of vitamin B12.
Absorption of Vitamin B12 (FUT2)	MEDIUM-NORMAL	Assess serum vitamin B12 and, if reduced, take appropriate measures. Check the possibility of using pre and probiotics.
Vitamin B2	MEDIUM-NORMAL	Consume the RDA of vitamin B2 daily. Adults should consume about 1.3 mg. Pregnant women need 1.6 mg of Vitamin B2 per day and lactating women need 1.8 mg. Vegetarians and especially vegans should increase their dosage.
Vitamin B3 (Niacin)	HIGH	Check the signs and symptoms: Diarrhea, Dementia, Dermatitis, excessive salivation and enlarged salivary glands. For the treatment of severe Niacin deficiency: daily doses of 300 to 500 mg of nicotinamide.
Vitamin B5 (Pantothenic Acid)	HIGH	Check the signs and symptoms: stress, fatigue, insomnia, cramps, stomach pains, involuntary muscle contractions and even respiratory infections. Recommendation: up to 13 years maximum of 4 mg. Adult: 5 mg daily intake. Pregnant or breastfeeding women: 7 mg. Athletes: 10 mg.
Vitamin B6	HIGH	Consider the assessment of plasma pyridoxine, but, as with other plasma markers, it may not reflect the increased need for pyridoxine.
Vitamin B7 (Biotin)	MEDIUM-HIGH	Check the signs and symptoms: hair loss, skin problems, poor nail quality. The recommended daily dose mainly in case of deficiency: 0.3 mg to 0.6 mg. Diabetic individuals can benefit from daily doses of vitamin B7.
Vitamin C	MEDIUM-NORMAL	Consume the RDA of vitamin C daily.
Vitamin D	HIGH	Consume 1000 IU (25 mcg) of vitamin D daily.
Vitamin E	HIGH	It is suggested to evaluate the plasma level of vitamin E. As with other serum markers, finding a result within the reference does not mean that the need is being met.
Vitamin K	MEDIUM-HIGH	Consume the RDA of vitamin K daily. Carefully check your vitamin K intake and think about increasing your vitamin K supply.
Benefit of Zeaxanthin	MEDIUM-NORMAL	Patient can benefit from increased consumption of Zeaxanthin.
Omega 3	HIGH	Consume at least 1.24 grams of omega-3 fat per day.
Omega 6	HIGH	Check the daily consumption of omega 6 and study the possibility of increasing your consumption.
Omega 9	HIGH	Check the daily consumption of omega 9, and study the possibility of increasing your consumption.
Benefit of Betaine	MEDIUM-NORMAL	Patient can benefit from Betaine supplementation, but only if you notice changes in homocysteine.
Benefit of Bromelain	MEDIUM-HIGH	Patient can benefit from the anti-inflammatory and fibrinolytic effects of bromelain.

Calcium	MEDIUM-NORMAL	Consume the RDA of calcium daily.
Copper	HIGH	Patient has a much increased predisposition to the need for copper, but assess the level of blood copper before using any nutritional supplement.
Coenzyme Q10	HIGH	Assess serum ubiquinol levels, and keep them optimal. Study the possibility of increasing the intake of coenzyme Q10.
Iron	HIGH	Achieve the RDA of iron and consume sources of vitamin C along with foods rich in iron.
Phosphorus	NORMAL	Consume phosphorus RDA daily.
Selenium	HIGH	Evaluate selenium in plasma, serum or whole blood. Although the three forms are well studied, evaluation in whole blood seems to be the most suitable. Maintain optimal selenium levels.
Folate	MEDIUM-NORMAL	Consume the RDA of folate daily. Eat raw green leafy vegetables, asparagus, broccoli, fruits (preferably citrus) and liver.
Potassium	NORMAL	Consume the RDA of potassium daily.
Deficiency in Fat Metabolism	HIGH	Consume 15 to 25% of energy from fat.
Micronutrient Metabolism	MEDIUM-NORMAL	Better micronutrient metabolism.
Metabolism of Xenobiotics (including caffeine and P-450)	MEDIUM-NORMAL	Slightly increased metabolism of Xenobiotics.
Caffeine Metabolization	MEDIUM-NORMAL	Limit caffeine intake to 300 (for women of childbearing age) or 400 mg / day (other adults), daily.
Benefit of Probiotics	MEDIUM-HIGH	Tendency to benefit from Probiotics supplementation.
Lower LDL in Diets Low in Unsaturated Fats	NORMAL	Normal tendency to decrease LDL in diets low in unsaturated fats.
Iodine	MEDIUM-HIGH	Check the daily consumption of iodine and study the possibility of increasing its consumption.
Benefit of Melatonin	LOW	It does not tend to benefit from melatonin supplementation.

Body composition

Condition	Risk factor	Recommendations
Tendency to Depression	MEDIUM-NORMAL	Practice physical activity regularly and a balanced diet (containing zinc, vitamin D, tryptophan and B6).
Slimming with more protein intake than carbohydrates	MEDIUM-HIGH	Tendency to benefit from diets where you consume more proteins than carbohydrates. Consume 25% to 35% of energy from protein.
Weight Loss with Carbohydrate Restriction	HIGH	High Tendency of carbohydrate restriction for weight loss.
Weight Loss with Calorie Restriction	MEDIUM-HIGH	Tendency to lose weight and lose abdominal fat in diets with calorie restriction.
Slimming with more fiber intake	HIGH	Tendency to increase fiber intake and achieve weight loss.
Difficulty in Maintaining Weight	MEDIUM-NORMAL	Tendency to have difficulty maintaining body weight.
Thinning with the consumption of complex carbohydrates	MEDIUM-NORMAL	Patient has an average weight loss trend with the consumption of complex carbohydrates.
Slimming with Fat Reduction	NORMAL	Presents a normal weight loss trend in Diets with Fat Reduction.
Preference for bitter foods	LOW	There is no risk of excessive consumption of bitter foods.

Preference for sweet foods	MEDIUM-HIGH	Keep your intake of added sugars below 5% of your total caloric intake.
Preference for fatty foods	HIGH	Guarantee the consumption of 15 and a maximum of 20% of the total energy value from fats.
Tendency to Obesity	HIGH	Practice regular physical activity (150 minutes per week) and maintain a balanced diet. Limit the consumption of sweetened drinks and foods, including industrialized juices.
Tendency to Obesity (monogenic)	NORMAL	Normal tendency to develop obesity (monogenic).
Mitochondrial Energy Production	MEDIUM-NORMAL	Decrease 550 calories / day of your energy expenditure for weight loss.
Tendency to Anxiety	MEDIUM-NORMAL	Practice physical activity regularly (150 minutes per week) and healthy lifestyle habits, as this minimizes anxiety.
Weight gain with saturated fat intake	HIGH	Avoid/restrict the consumption of Saturated Fat.

Physical activity

Condition	Risk factor	Recommendations
Physical Resistance	HIGH	Patient has a genetic advantage to excel in resistance activities, as it tends to take time to fatigue.
Tendency to Fractures	MEDIUM-NORMAL	Average tendency to have fractures.
Aerobic Capacity	MEDIUM-HIGH	Patient tends to benefit and perform better in exercises that increase your heart rate, such as running, cycling, swimming or dancing.
Muscle Strength	MEDIUM-HIGH	Patient has a genetic advantage to stand out in sports that need strength.
Muscle Mass Gain	MEDIUM-HIGH	Patient has genetic aspects that favor muscle mass gain.
Runner with more endurance than speed	NORMAL	Patient has a tendency to lower resistance and higher speed.
Pain Tolerance	MEDIUM-HIGH	Patient has medium-high pain tolerance.
Improved insulin sensitivity with exercise.	MEDIUM-NORMAL	Insulin sensitivity with increased physical activity.

Imbalances and Deficiencies

Condition	Risk factor	Recommendations
Deficiency in the Conversion of T4 to T3	HIGH	Tendency to deficiency in the Conversion of T4 to T3.
Methylenetetrahydrofolate reductase (MTHFR) deficiency	MEDIUM-NORMAL	Patient has a medium tendency to MTHFR deficiency.
L-ferritin Deficiency	UNDEFINED	
Tendency to Hyperphagia	NORMAL	Recommend regular practice of physical activity and healthy eating habits.
Collagen Degradation	MEDIUM-HIGH	Check the polymorphisms associated with inflammation and oxidative stress, and modulate accordingly, as indicated in this exam, since oxidative stress and chronic inflammation are two fundamental triggers that stimulate collagen degradation.
Low Ferritin in Women	NORMAL	Patient presents a low tendency to Low Ferritin.

Galactosemia	NORMAL	Low tendency to Galactosemia.
Insomnia with Caffeine	NORMAL	Patient has a low tendency to insomnia with caffeine.
Sodium reduction to control hypertension	MEDIUM-NORMAL	Tendency to benefit from reducing sodium to control blood pressure.
Homocysteine Accumulation	MEDIUM-HIGH	Check, under "Nutrients and Metabolism", whether the need to ingest folate (B9), pyridoxine (B6), riboflavin (B2), cobalamin (B12), choline and betaine are normal or increased, and correct as necessary. Measure the blood level of homocysteine, pyridoxine, folate and B12.
Platelet Glycoprotein Deficiency IV	NORMAL	Patient has a low tendency to deficiency of GPIb-V-IX.
ALDH2 Deficiency	LOW	Patient has a low tendency to ALDH2 Deficiency.
Elastin Deficiency	NORMAL	Patient has a low tendency to Elastin Deficiency.
Cholesterol Level (LDL)	MEDIUM-HIGH	Patient has a tendency of medium-high LDL level.
Mevalonate Kinase Deficiency (MKD)	NORMAL	Patient has a low tendency to Mevalonate Kinase Deficiency.
Glucose-6-Phosphate Dehydrogenase Deficiency (G6PD)	HIGH	Patient has a high tendency to G6PD.
Growth Hormone Deficiency (GH)	NORMAL	Patient has a low tendency to Deficiency of Growth Hormone.
Cholesterol Level (HDL)	MEDIUM-HIGH	HDL mid-high trend.
Tendency to Hypertriglyceridemia	MEDIUM-HIGH	Shows medium-high tendency to hypertriglyceridemia. Request complete lipidogram.
Response to Antidepressants	MEDIUM-HIGH	Medium-high tendency to benefit from treatment with antidepressants.
Autophagy	NORMAL	Normal autophagy process.
Hereditary Fructose Intolerance	HIGH	Has a high genetic predisposition to the development of Hereditary Fructose Intolerance.

Intolerances and Dysfunctions

Condition	Risk factor	Recommendations
Hypercholesterolemia (Type B)	NORMAL	Patient has no tendency to hypercholesterolemia.
Hereditary Familial Hypercholesterolemia	MEDIUM-NORMAL	If necessary, request a complete lipidogram examination.
Hyperparathyroidism	MEDIUM-NORMAL	If necessary, request a PTH test (parathormone).
Hypothyroidism (Goiter)	NORMAL	Patient has no tendency to Hypothyroidism.
Type 1 Diabetes	MEDIUM-HIGH	It is necessary to measure blood glucose, especially post-prandial plasma glucose (2 hours after a meal). Maintain a balanced diet rich in vegetables, whole grains (Quinoa, chia, flaxseed), legumes and cinnamon.
Type 2 Diabetes	MEDIUM-HIGH	It is necessary to measure blood glucose, especially post-prandial plasma glucose (2 hours after a meal). Maintain a balanced diet rich in vegetables, whole grains (Quinoa, chia, flaxseed), legumes and cinnamon.
Early Type 2 Diabetes	NORMAL	Maintain a balanced diet along with regular physical activity.
Lower Bone Mineral Density	MEDIUM-NORMAL	The practice of regular physical activity is of paramount importance, especially hangman exercises (hypertrophy).
Cow's Milk Allergy	MEDIUM-HIGH	Limit consumption of cow's milk products.

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Sample

Allergy to Egg White	MEDIUM-NORMAL	Allergy trend to egg white.
Ulcerative Colitis	MEDIUM-HIGH	Increase the consumption of anti-inflammatory foods and apple, kale and beet juice is also indicated.
Stroke	HIGH	The practice of regular physical activity, a balanced diet and cholesterol control is of paramount importance.
Acute Myocardial Infarction	HIGH	Request complete lipidogram. The practice of regular physical activity and a balanced diet is of paramount importance.
Acute Myocardial Infarction (early)	MEDIUM-NORMAL	Request complete lipidogram. The practice of regular physical activity and a balanced diet is of paramount importance.
Cardiac Insufficiency	MEDIUM-NORMAL	Check for signs and symptoms: shortness of breath, fatigue, swollen legs and fast heartbeat. Maintain healthy lifestyle habits.
Anorexia Nervosa	NORMAL	Patient has no tendency to Anorexia Nervosa.
Lactose Intolerance	LOW	Avoid excessive consumption of dairy products.
Gluten Intolerance	MEDIUM-HIGH	It is advisable to carry out a complete elimination and reintroduction diet, guided by a professional, or, at least, the elimination of food containing gluten, for a minimum period of 45 days.
Colorectal Neoplasia (Meat Consumption)	NORMAL	Beware of overeating red meats.
Irritable Bowel Syndrome	NORMAL	Patient has no tendency to Irritable Bowel Syndrome.
Metabolic Syndrome	MEDIUM-HIGH	Tendency to metabolic syndrome. Watch for symptoms. Watch for symptoms. Regular physical activity - about 150 minutes a week - is essential to maintain weight, control blood pressure and cholesterol.
Gestational Diabetes	NORMAL	Low tendency to Gestational Diabetes.
Crohn's Disease	MEDIUM-HIGH	Crohn's disease trend. Check for signs and symptoms. Avoid foods with lactose, sucrose, gluten, excessive intake of red meat, alcohol consumption, increase the consumption of fruits and vegetables.
Gastroesophageal Reflux Disease (GERD)	NORMAL	Patient has a low tendency to GERD.
Inflammatory Bowel Disease (IBD)	MEDIUM-HIGH	Tendency to Inflammatory Bowel Diseases. Check for signs and symptoms. Indicated anti-inflammatory diet; avoid gluten; milk and dairy products. Think of Supplements as: Vitamin A; D; C; Quercetin; prebiotics; probiotics; omega 3 and turmeric.
Chronic Kidney Disease (CKD)	MEDIUM-NORMAL	Patient presents medium-high tendency to CKD. Check kidney function.
Autoimmune Thyroid Disease (DTA)	MEDIUM-NORMAL	Patient has a medium tendency to DTA. Check for signs and symptoms.
Cystic Fibrosis (CF)	NORMAL	Patient has a low tendency to Cystic Fibrosis.
Hemochromatosis	MEDIUM-HIGH	Patient presents medium-high tendency to Hemochromatosis. Check for signs and symptoms.
Histamine Intolerance	NORMAL	Patient has a low tendency to Histamine Intolerance.
Allergy to Nuts	UNDEFINED	
Glutaric Aciduria Type I (AG1)	MEDIUM-NORMAL	Patient has a medium tendency to AG1. Check for signs and symptoms.
Renal Tubular Acidosis (ATR)	NORMAL	Patient has a low tendency to ATR.
Abetalipoproteinemia (Bassen-Kornzweig syndrome)	NORMAL	Low tendency to Bassen-Kornzweig syndrome.

Reduction in Factor XII Activity (Coagulation)	MEDIUM-NORMAL	Average tendency to Hageman's factor.
Attention Deficit Disorder with Food Dyes	MEDIUM-NORMAL	Avoid excessive consumption of processed foods.
Non-Alcoholic Liver Steatosis	MEDIUM-NORMAL	If necessary, reduce weight and assess blood glucose and cholesterol levels (lipidogram).
Alzheimer's Disease	MEDIUM-HIGH	The practice of regular physical activity and a balanced diet in conjunction with activities that stimulate the brain (chess games, reading ...) help to reduce the progression and development of Alzheimer's.
Parkinson's Disease	MEDIUM-NORMAL	The practice of regular physical activity and a balanced diet in conjunction with activities that stimulate the brain (chess games, reading ...) help to reduce the progression and development of Parkinson's.
Ankylosing Spondylitis	NORMAL	Low tendency to ankylosing spondylitis.
Peanut Allergy	MEDIUM-HIGH	Avoid excessive consumption of Peanuts and their derivatives.
Alcohol Intolerance	NORMAL	Patient has no tendency towards alcohol intolerance.
Glutamate Intolerance	MEDIUM-NORMAL	Patient has a medium tendency to glutamate intolerance.
Mercury Intolerance	MEDIUM-HIGH	Patient has a tendency towards intolerance to Mercury.
Breast Neoplasm	MEDIUM-HIGH	Tendency to Breast Neoplasia.
Lung Neoplasm	MEDIUM-NORMAL	Tendency to Lung Neoplasia.
Mitochondrial Fatty Acid Oxidation Disorders (β-Oxidation)	NORMAL	Presents normal genetic predisposition to Mitochondrial Fatty Acid Oxidation Disorders (β-Oxidation).

Inflammation and Oxidative Stress

Condition	Risk factor	Recommendations
Need for Detoxification	MEDIUM-HIGH	Avoid consumption of processed products, tobacco and the like. Encourage hydration and consumption of some phytochemicals such as fruits and seeds.
Tendency to Oxidative Stress	HIGH	Patient has variations that reduce the antioxidant capacity. Ensure adequate consumption of antioxidants from at least 5 servings of fruits or vegetables per day and including 4 servings / week of crucifers.
IL-10	MEDIUM-NORMAL	IL-10 trend high.
IL-1β	MEDIUM-NORMAL	The consumption of polyunsaturated fatty acids and foods with anti-inflammatory potential reduces the risk associated with IL-1β.
IL-6	MEDIUM-HIGH	The consumption of polyunsaturated fatty acids and foods with anti-inflammatory potential reduces the risk associated with IL-6.
IL-8	MEDIUM-NORMAL	The consumption of polyunsaturated fatty acids and foods with anti-inflammatory potential reduces the risk associated with IL-8.
IFN-γ	MEDIUM-NORMAL	The consumption of polyunsaturated fatty acids and foods with anti-inflammatory potential reduces the risk associated with IFN-γ.
TNF	MEDIUM-HIGH	The consumption of polyunsaturated fatty acids and foods with anti-inflammatory potential reduces the risk associated with TNF.

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1. Nutrient Needs and Metabolism

Related Genes

COMT	GSTM1	GSTP1	GSTT1	AOC1	CAT	CXCL8	IFNG
IL-1B	IL-1RN	IL-6	IL-10	IL-15	IL-18	LPA	NOS3
PACERR	PON1	TINCR	TNF	VDR BSM-I	VDR FOK-I	VDR TAQ-I	VDR APA-I

No results | Low | Normal | Medium | Medium-High | High

Choline

Risk factor

MEDIUM-HIGH

Helps to maintain the brain and liver. Choline is one of the B complex vitamins. The main functions of choline involve the brain. It is important for the formation of the neurotransmitter acetylcholine, which indirectly regulates memory and also has a role in controlling muscle activity.

Recommendations

Patient presents an increased risk for the low level of choline. Reassess choline intake and verify the need for greater intake.

Observations

RECOMMENDATIONS: Choline can be found in both animal-based foods, such as eggs, meat, fish, and shrimp, and plant-based foods, such as broccoli, quinoa, cauliflower, Brussels sprouts, soy, oat bran, beets, fish, spinach, and legumes.

Genes (9 genes and 17 SNPs were analyzed)

CHAT, CHDH, CHKA, CHKB, FMO3, MTHFD1, MTHFD1L, PEMT, SLC44A1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PEMT	rs7946	CT +	T	MEDIUM-HIGH
PEMT	rs4244593	AA -	A,G	MEDIUM-HIGH
MTHFD1L	rs6922269	AG +	A	MEDIUM-NORMAL
FMO3	rs2266782	AG +	A	MEDIUM-NORMAL
MTHFD1L	rs17349743	TT +	C	NORMAL

1. Nutrient Needs and Metabolism

Benefit of Turmeric (Curcumin)

Risk factor

MEDIUM-NORMAL

Benefit from regular intake of turmeric, by stimulating the endogenous antioxidant system and stimulating DNA repair.

Recommendations

Tendency to benefit from eating Turmeric.

Genes (2 genes and 2 SNPs were analyzed)

BIN1, SOD3

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
BIN1	rs744373	CT -	G	MEDIUM-HIGH
SOD3	rs1799895	CC +	G	NORMAL

1. Nutrient Needs and Metabolism

Vitamin A

Risk factor

NORMAL

Vitamin A or Retinol is a micronutrient belonging to the group of fat-soluble vitamins, and can be found in animal tissue in the form of retinoids or as a pro-vitamin in plant tissues, in the form of carotenoids.

Recommendations

Consume the RDA of vitamin A daily. Women should eat 700 mcg of RAE (equivalent to retinol activity) per day and men should take 900 mcg of RAE per day.

Observations

Vitamin A belongs to the group of fat-soluble vitamins and can be found in two sources. In foods of animal origin, it is in the form of retinoids and in those of vegetable origin, the nutrient is in the form of groups of carotenoids, which include beta-carotene. These substances will be converted into vitamin A. SOURCE OF VITAMIN A: *Amount of vitamin B1 in 100 g *Liver (beef): 10700µg. *cress salad - 173 µg. *Cabbage - 750 µg. Chicken egg: 225 µg per unit. Carrot: Rich in beta-carotene - a substance that transforms into vitamin A in the body, a medium carrot provides 509 µg.

Genes (1 genes and 4 SNPs were analyzed)

BCO1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
BCO1	rs119478057	CC +	T	NORMAL
BCO1	rs12934922	AA +	G,T	NORMAL
BCO1	rs6564851	TT +	G	NORMAL
BCO1	rs7501331	CC +	T	NORMAL

1. Nutrient Needs and Metabolism

Vitamin B1 (Thiamine)

Risk factor

MEDIUM-HIGH

Thiamine (vitamin B1) is classified as one of the B vitamins. All B vitamins are water-soluble, meaning the body does not store them and needs to be replaced daily. Small amounts of Thiamine (vitamin B1) are found in virtually all foods. However, thiamine (vitamin B1) deficiency is among the most common nutritional deficiencies, because it is fragile and is among the nutrients most prone to destruction by processing. Thiamine enters the formation of ATP (adenosine triphosphate), a molecule that every cell in the body uses as an energy source. They also help in the metabolism of fats and proteins. Thiamine strengthens the immune system and improves the body's ability to withstand stressful conditions.

Recommendations

Lack of vitamin B1 can lead to Beriberi disease. Check the signs and symptoms (mild symptoms: insomnia, nervousness, irritation, fatigue, loss of appetite and energy; heavier symptoms: muscle weakness, gastrointestinal problems, breathing difficulties, loss of sensation in the feet, hands and mental confusion). Dosage serum B1 (Thiamine Serum) and make sure the proper consumption of Vitamin B1.

Observations

Present in foods of animal origin. Like beef, poultry and pork. *Amount of vitamin B1 in 100 g *Sunflower seeds - 2 mg *Raw smoked ham - 1.1 mg * Brazil nuts - 1 mg *Roasted cashew nuts - 1 mg *Whole wheat flour - 0.66 mg

Genes (6 genes and 12 SNPs were analyzed)

PNPLA3, SLC19A2, SLC19A3, SLC25A19, SLC35F3, TPK1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PNPLA3	rs738409	GG -	G	HIGH
SLC35F3	rs34032258	CC +	G	NORMAL
SLC19A2	rs28937595	GG -	A	NORMAL
SLC19A2	rs121908540	CC -	T	NORMAL
SLC19A2	rs74315374	GG -	A	NORMAL

1. Nutrient Needs and Metabolism

B12 vitamin

Risk factor

MEDIUM-HIGH

Cobalamin (Vitamin B12) is necessary for erythropoiesis (production of erythrocytes, also called red blood cells or red blood cells), metabolism of amino acids and nucleic acids and many other cellular functions.

Recommendations

Patient has high risk variants for vitamin B12 deficiency, must reach the RDA of vitamin B12 consumption of 2.4 mcg per day.

Observations

Vitamin B12 is activated to methylcobalamin through a methylation reaction by the enzyme methionine synthetase reductase. Polymorphisms in the gene responsible for this enzyme may reduce the efficiency of its activation. By supplementing methylcobalamin we are going beyond this step, thus ensuring an efficient metabolization of homocysteine. As a dietary supplement, vitamin B12 is available in various forms. The active forms are methylcobalamin and adenosylcobalamin. Studies indicate that methylcobalamin, because it is active, can be immediately absorbed by the body, while cyanocobalamin still needs to be converted into the active form, by the enzyme methionine reductase synthetase (MTRR). This conversion is inadequate in many people, either due to polymorphisms in the MTRR gene or patients with pernicious anemia and diabetes. In these cases, methylcobalamin is the preferred form of B12. SOURCE OF VITAMIN B12: *Amount of vitamin B12 in 100 g *Boiled liver - 72.3 mcg *Steamed seafood - 99 mcg *Boiled oysters - 26.2 mcg *Boiled chicken liver - 19 mcg *Mozzarella cheese - 1.6 mcg *Milk - 1 mcg *Boiled chicken - 0.4 mcg *Boiled meat - 2.5 mcg

Genes (14 genes and 33 SNPs were analyzed)

ALPL, AMN, CBS, CLYBL, CPS1, CUBN, FUT2, MTHFR, MTR, MTRR, NBPF3, SLC19A1, TCN1, TCN2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
MTHFR	rs1801131	AC -	G	MEDIUM-HIGH
TCN2	rs1801198	GG +	A,C	MEDIUM-HIGH
NBPF3	rs4654748	CT +	T	MEDIUM-HIGH
FUT2	rs602662	AG +	G	MEDIUM-HIGH
CUBN	rs11254363	AG +	G	MEDIUM-HIGH

1. Nutrient Needs and Metabolism

Absorption of Vitamin B12 (FUT2)

Risk factor

MEDIUM-NORMAL

Normally, vitamin B12 is readily absorbed in the last part of the small intestine (ileum), which communicates with the large intestine. However, to be absorbed, this vitamin has to be combined with intrinsic factor, the protein produced by the stomach. Orange and red indicate higher levels of vitamin B12 absorption, especially in women.

Recommendations

Assess serum vitamin B12 and, if reduced, take appropriate measures. Check the possibility of using pre and probiotics.

Observations

Looking at specific SNPs: Individuals rs602662(GG) have much lower B12 levels than AA individuals. In addition, GG is also at increased risk for pneumonia, bronchiolitis, diarrhea (all reduced the longer the breastfeeding period) and Crohn's disease. Individuals rs492602(AA) and (GA) have lower levels of B12 than those (GG). Individuals rs601338 (AA) have a lower capacity to fix bifidobacteria in the mucosa of the gastrointestinal tract, and thus, a greater tendency to dysbiosis, compared to (AG) and (GG). In addition, they are at increased risk for type 1 diabetes, Crohn's Disease, Celiac Disease, influenza virus infections (viral flu), and clinical observations show a higher frequency of candidiasis, digestive complaints, and resistance to infections by the norovirus, the most common cause of viral gastroenteritis in adults. Individuals rs601338(GG), however, allow greater and more intense colonization by H. pylori in their stomachs, causing more damage to the mucosa.

Genes (1 genes and 4 SNPs were analyzed)

FUT2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
FUT2	rs492602	CT -	A,G	MEDIUM-HIGH
FUT2	rs601338	AG +	A	MEDIUM-NORMAL
FUT2	rs602662	AG +	G	NORMAL

1. Nutrient Needs and Metabolism

Vitamin B2

Risk factor

MEDIUM-NORMAL

Riboflavin (Vitamin B2) helps in the metabolism of proteins, carbohydrates and lipids. They also act as an antioxidant, being important for the eyes, skin, mouth and hair.

Recommendations

Consume the RDA of vitamin B2 daily. Adults should consume about 1.3 mg. Pregnant women need 1.6 mg of Vitamin B2 per day and lactating women need 1.8 mg. Vegetarians and especially vegans should increase their dosage.

Observations

It is found in foods such as whole grains, milk, yogurt, soy, egg and wheat germ, and its deficiency can cause various symptoms in the body.

Genes (5 genes and 14 SNPs were analyzed)

ETFDH, FMO3, MTHFR, SLC52A2, SLC52A3

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
FMO3	rs1736557	AG +	A	MEDIUM-HIGH
FMO3	rs2266782	AG +	A	MEDIUM-HIGH
MTHFR	rs1476413	AG -	G,T	NORMAL
MTHFR	rs1801133	CC -	A	NORMAL
FMO3	rs61753344	GG +	T	NORMAL

1. Nutrient Needs and Metabolism

Vitamin B3 (Niacin)

Risk factor

HIGH

Niacin (Vitamin B3 or nicotinic acid) is important for maintaining the balance of the skin and nervous system. It is also relevant to the proper functioning of the digestive system. It is part of the B vitamins group. It is a water-soluble vitamin (water-soluble) essential for the reactions involved in the production of energy from food. Absorption of niacin occurs in the small intestine, but the excess of this vitamin is not stored, but eliminated through urine.

Genes (7 genes and 7 SNPs were analyzed)

BST1, CD38, GAD1, NAMPT, SIRT1, SIRT3, SIRT6

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
SIRT1	rs12778366	TT +	C	HIGH
SIRT3	rs511744	CC +	T	HIGH
SIRT6	rs352493	TT +	C	HIGH
BST1	rs4698412	AA +	A	HIGH
GAD1	rs2241165	AA -	T	NORMAL

1. Nutrient Needs and Metabolism

Vitamin B5 (Pantothenic Acid)

Risk factor

HIGH

Pantothenic acid (Vitamin B5), performs functions in the body such as producing cholesterol, hormones and erythrocytes, which are the cells that carry oxygen in the blood. This vitamin can be found in foods such as fresh meats, cauliflower, broccoli, whole grains, eggs and milk, and its deficiency can cause symptoms such as tiredness, depression and frequent irritation. Some benefits: Produce energy and maintain the proper functioning of the metabolism; Maintain adequate production of hormones and vitamin D; Reduce tiredness and fatigue; Promote the healing of wounds and surgeries; Reduce high cholesterol and triglycerides; Help control the symptoms of rheumatoid arthritis.

Genes (72 genes and 100 SNPs were analyzed)

ABCA1, ABCG8, AHCY, AIRE, ANAPC4, ANXA3, AOC1, APOA5, APOC1, APOE, AR, BRCA2, C5, CDK6, CPS1, CR1L, CTLA4, DNAH11, DOCK7, EOMES, FABP2, FADS1, FADS2, FCRL3, GAD1, GCKR, GPX1, GUCY1B2, HLA-DQA1, HLA-DRB1, HTR2A, HYKK, ICAM3, IL-2RA, IL-2RB, INTERGENIC, IRF5, ITGAV, JMJD1C, KIAA1109, LDLR, LPL, MAT1A, MCT1, MLXIPL, MMEL1, MTHFR, NAF1, NFKBIE, NOD2, OR4A46P, PADI4, PCIF1, PHF19, PHTF1, PHYHIP, PLD4, PSMA4, PTPN2, PTPN22, RAB11B, SLC6A11, STAT4, TMEM241, TNF, TRAF1, TRAF1/C5, UBASH3A, VARS2, WDFY4, ZNF175, ZPR1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs6920220	AG +	A	HIGH
KIAA1109	rs13119723	GG +	G	HIGH
HTR2A	rs1328674	AG -	C,G	MEDIUM-HIGH
HLA-DRB1	rs660895	GG +	G	MEDIUM-HIGH
APOE	rs7412	TT +	T	MEDIUM-HIGH

1. Nutrient Needs and Metabolism

Vitamin B6

Risk factor

HIGH

Pyridoxine (Vitamin B6) promotes cell respiration and aids in protein metabolism, in addition to helping to reduce fluid retention.

Genes (64 genes and 143 SNPs were analyzed)

ABCA1, ABCB1, ADA, ADORA2A, AHCY, ALPL, ARMS2, BCR, BDNF, C2, C3, CBS, CETP, CFB, CFH, CHRM2, CLOCK, COL8A1, COMT, CRYBB2, CRYBB3, CRYGD, CX3CR1, DAT, DCDC2, DTNBP1, EPHA2, FGD6, FGF20, FKBP5, GAD1, GJA8, GPHN, GPX4, GRIA3, GSR, HTR2A, HTR2C, HTRA1, IL-1B, INTERGENIC, KIAA0319, MAF, MAOA, MTHFR, MTRR, NBPF3, NOTCH4, NPAS2, NR3C1, OXTR, PDE11A, PDE9A, PITX2, REST, SERPINF1, SKIV2L, SLC64A, SOD2, TDP2, TLR3, TPH1, TTRAP, VEGFA

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
GRIA3	rs687577	CC +	C	HIGH
NBPF3	rs4654748	CT +	T	HIGH
ARMS2	rs10490924	GT +	T	MEDIUM-HIGH
CFH	rs1061147	CC +	C	LOW
CETP	rs1864163	GG +	A	LOW

1. Nutrient Needs and Metabolism

Vitamin B7 (Biotin)

Risk factor

MEDIUM-HIGH

Biotin (Vitamin B7) is one of the B complex vitamins, responsible for breaking down fats and carbohydrates in food and transforming them into energy. It is important for producing keratin (stronger nails and hair). Promotes good health of skin, nails and hair.

Recommendations

Check the signs and symptoms: hair loss, skin problems, poor nail quality. The recommended daily dose mainly in case of deficiency: 0.3 mg to 0.6 mg. Diabetic individuals can benefit from daily doses of vitamin B7.

Observations

Involved in the synthesis of heme, mitochondrial complex IV, its deficit increases the formation of reactive oxygen species.

Genes (62 genes and 108 SNPs were analyzed)

ABCA1, ACHE, ACP7, ADRA2A, AR, ARL15, ARMS2, C2, C3, CAPN10, CDKAL1, CDKN2A, CDKN2A/B, CDKN2B-AS1, CETP, CFH, COL8A1, CRYBB2, CRYGD, CX3CR1, DNER, EPHA2, FGD6, FGFR3, FTO, GAD1, GCKR, GJA8, GRK5, GSR, HHEX, HTRA1, IL-6, INTERGENIC, IRS1, JAZF1, KCNJ11, KCNQ1, MAF, MTTP, NOS3, NOTCH2, NOTCH4, PAX4, PITX2, PPARG, RBMS1, REST, RHOU, RPSAP52, SKIV2L, SLC2A14, SLC30A8, SOD2, TCF7L2, TGFBR3, TLR3, TRIB3, TRPS1, VEGFA, VPS26A, VPS33B

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
SLC30A8	rs13266634	CC +	A,T	HIGH
CFH	rs1061147	CC +	C	LOW
CETP	rs1864163	GG +	A	LOW
CETP	rs5882	AG +	A	LOW
CFH	rs1061170	TT +	T	LOW

1. Nutrient Needs and Metabolism

Vitamin C

Risk factor
MEDIUM-NORMAL

Ascorbic acid (Vitamin C) is a water-soluble vitamin, that is, soluble in water. Since it is not synthesized by the organism, it must be obtained through food. It is absorbed in the small intestine (in the jejunum and ileum) in the presence of sodium. When exposed to heat, air (oxygen) and alkaline medium, it is easily oxidized and loses its functions, especially when the food is in contact with copper and iron. Vitamin C increases the production of white blood cells, cells that are part of the immune system, and has the function of fighting microorganisms and structures foreign to the body. Vitamin C also increases antibody levels. Vitamin C itself has an antioxidant action, which helps to neutralize free radicals by promoting the cleaning of reactive oxygen and nitrogen species (types of free radicals) and, thus, protecting the organism from damage from oxidative stress (excess of free radicals in the body). It is also essential for the production of neurotransmitters such as serotonin, adrenaline, norepinephrine and dopamine, which regulate mood. It is also essential for the natural production of collagen in the body, the protein that gives support and firmness to the skin (in addition to hair, nails, joints). Vitamin C contributes to better absorption of non-heme iron from foods of plant origin, in addition to improving the absorption of heme iron, derived from foods of animal origin - and which already has good bioavailability.

Recommendations

Consume the RDA of vitamin C daily.

Observations

SOURCE OF VITAMIN C: *Amount of vitamin C in 100 g *Natural orange juice - 41 mg * Strawberry - 47 mg * Papaya - 68 mg * Kiwi - 72 mg * Guava - 230 mg *Orange - 57 mg *Boiled broccoli - 42 mg * Boiled cauliflower - 45 mg * Red cabbage braised - 40 mg * Sweet potatoes - 25 mg

Genes (66 genes and 145 SNPs were analyzed)

ABCA1, ABCB1, ABI3BP, ALDH2, AOC1, APOB, ATM, AURKA, B3GALT1, BCO1, CCHCR1, CDKN1A, CDKN2A, CETP, CFH, CLPTM1L, CYP1A1, CYP1B1, CYP2E1, CYP3A4, CYP3A5, DEF8, DHFR, DIRC3, DPYD, E2F3, EPHX1, ERI1, FASLG, FOXE1, G6PD, GPX1, GSTP1, HDAC4, HLA-DRA, HLA-DRB1, HNF1A, HTRA1, IGF1R, IL4R, INTERGENIC, IRF4, KL, LMNA, MC1R, MDM2, MTHFR, MTRR, PIK3CA, PPARG, PPARGC1A, PTEN, RNASEL, SIRT1, SLC23A1, SLC2A14, SLC39A6, SLC45A2, SOD2, SOD3, SPIRE2, STAT4, TERT, TYR, XPC, XRCC1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
HLA-DRB1	rs660895	GG +	G	MEDIUM-HIGH
CFH	rs1061147	CC +	C	LOW
RNASEL	rs3738579	CT -	G	LOW
FASLG	rs763110	TT +	T	LOW
CFH	rs1061170	TT +	T	LOW

1. Nutrient Needs and Metabolism

Vitamin D

Risk factor

HIGH

Vitamin D is the general name given to a group of fat-soluble compounds that are essential for maintaining mineral balance in the body, and is also known as anti-rickety and cholecalciferous vitamin D. Vitamin D optimizes bone health; reduces the risk of stress fractures; assists in heart health, immune, and neuromuscular function; in addition to helping in muscle recovery and strengthening during intense training. It has cardiometabolic function.

Genes (261 genes and 483 SNPs were analyzed)

ABCA1, ABCB1, ABI3BP, ACE, ACHE, ACP7, ADCY5, ADD1, ADD2, ADIPOQ, ADRA2A, ADRB2, AGAP2, AGT, AGTR1, AHI1, ALDH2, ALK, ANKRD1, AOC1, APOB, APOE, APOE4, ARL15, ASIC2, ATM, ATP2B1, ATP6V1B1, AURKA, B3GALT1, BAG3, BAG6, BATF, BCAT1, BCO1, BDNF, BMPR1B, BMPR2, BRAP, BRCA2, BTD, C1ORF106, CACNB2, CALCA, CAPN10, CASZ1, CAV3, CBLB, CBS, CCHCR1, CCL2, CD58, CD86, CDH13, CDKAL1, CDKN1A, CDKN2A, CDKN2A/B, CDKN2B-AS1, CETP, CFH, CHRDL1, CHST12, CLCN6, CLEC16A, CLPTM1L, CLSTN2, CRP, CYP1A1, CYP1B1, CYP24A1, CYP27B1, CYP2E1, CYP2R1, CYP3A4, CYP3A5, CYP4A11, DAPK1, DBC1, DEF8, DHFR, DIRC3, DKKL1, DLEU1, DMD, DNAJC5B, DNER, DPYD, DSG2, E2F3, ENPP1, EPHX1, ERG, ERI1, ESR1, EVI5, F12, F7, FAM58A, FAM69A, FASLG, FGF20, FLJ25967, FMN2, FOXE1, FTO, G6PD, GAD1, GATA2, GATA4, GC, GCK, GCKR, GPX1, GPX4, GRK5, GSTP1, GUCY1A3, HDAC4, HHEX, HIVEP2, HLA-DRA, HLA-DRB1, HNF1A, HSPD1, HSPE1, IFNL4, IGF1R, IGF2BP2, IL-2RA, IL-4, IL-6, IL-7R, IL4R, INSIG2, INTERGENIC, IRF4, IRF5, IRS1, ITGA11, ITGB3, JAG1, JAZF1, KCNE1, KCNE2, KCNE3, KCNJ11, KCNQ1, KL, KLC1, KLRB1, LAG3, LEPR, LIPA, LMNA, LRP8, M6PR, MACROD2, MALT1, MAOA, MC1R, MDM2, MERTK, MMP3, MMP9, MOV10, MPV17L2, MRAS, MTHFD1, MTHFD1L, MTHFR, MTNR1B, MTRR, MTTP, MYBPC1, MYBPC3, MYO16, NADSYN1, NAF1, NCKAP5, NEDD4L, NFE2L2, NGF, NLRP1, NOS3, NOTCH2, NOV, NPPA, NR2F2-AS1, NR3C1, OLR1, OPRM1, PAX4, PCK1, PDE4B, PECAM1, PEX5L, PHACTR1, PIK3CA, PLCL2, PLPP3, PPARG, PPARGC1A, PSMA6, PSRC1, PTEN, PTH, PTPRD, PTPRS, RASGRP1, RBMS1, RHOU, RNASEL, RPL5, RPS6KB1, RPSAP52, RYR2, SAMD12, SCN5A, SDHAF4, SEZ6L, SH2B3, SHMT1, SIRT1, SLC2A14, SLC30A7, SLC30A8, SLC39A6, SLC45A2, SMAD3, SOD2, SPIRE2, STAT4, STK39, SYK, TAP2, TCF7L2, TERT, TGFBR3, THADA, THBS2, TLR4, TMPO, TNF, TNFSF14, TNFSF4, TRIB3, TRPM6, TTN, TTR, TXNRD2, TYR, UBE2E2, VDR, VPS26A, VPS33B, WFS1, WSCD2, XPC, XRCC1, ZNF767P

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs1333049	CC +	C	HIGH
INTERGENIC	rs10757278	GG +	G	HIGH
SLC30A8	rs13266634	CC +	A,T	HIGH
OPRM1	rs1799971	GG +	G	HIGH
PPARG	rs1801282	CG +	C	HIGH

1. Nutrient Needs and Metabolism

Vitamin E

Risk factor

HIGH

Vitamin E is important for the body because it is a powerful antioxidant, having functions such as preventing cardiovascular disease, improving the skin and strengthening the immune system. Vitamin E is rich in tocopherol, a potent antioxidant that primarily serves to protect cells in the body against diseases and changes in DNA that can lead to problems such as premature aging and cancer. In addition, it helps to regulate blood cholesterol levels, preventing complications such as atherosclerosis and heart attack.

Genes (222 genes and 371 SNPs were analyzed)

A2M, ABCA2, ABCA7, ACE, ADD1, ADRB2, AGAP2, AHI1, ALK, ANKRD1, AOC1, APH1B, APOA5, APOC1, APOE, APOE4, APP, ARHGAP20, ARVCF, ASIC2, ATP2B1, ATP8B4, BACE1, BAG3, BATF, BDNF, BIN1, BRAP, BRCA2, BTD, C1ORF106, CACNB2, CALHM1, CASC17, CASC21, CASC8, CAV3, CBLB, CCL2, CD2AP, CD58, CD86, CDH1, CDH13, CDKN1B, CDKN2B-AS1, CETP, CFH, CHAT, CHEK2, CHRDL1, CHST12, CLEC16A, CLSTN2, CLU, CNTNAP2, COMT, CPS1, CR1, CRP, CTNNA3, CYP17A1, CYP24A1, CYP2R1, CYP3A4, CYP4F2, DAB2IP, DAPK1, DBC1, DKK1, DKKL1, DLEU1, DMD, DNAJC5B, DPP6, DSG2, EHBP1, EIF2AK2, ELAC2, ENTPD7, ERG, ESR2, EVI5, F12, F7, FAM124A, FAM171A2, FAM69A, FCHSD1, FGF20, FGFR4, FLJ10986, FLJ25967, FMN2, FRMD4A, FYCO1, GAB2, GATA2, GATA4, GCKR, GOLM1, GPX1, GRN, GSTP1, HLA-DRA, HLA-DRB1, HNF1B, HSPD1, HSPE1, HTRA1, IDE, IL-10, IL-18RAP, IL-2RA, IL-4, IL-6, IL-7R, INTERGENIC, IRF5, ITGA2, ITGA6, ITGB3, JAG1, JAZF1, KCNE1, KCNE2, KCNE3, KCNQ1, KIAA1211, KL, KLC1, KLF6, KLRB1, LAG3, LDLR, LIPA, LIPC, LOXHD1, LRP6, LRP8, LTA, MAGEC3, MAGI2, MALT1, MAOA, MERTK, MME, MMP3, MMP9, MPO, MPV17L2, MRAS, MS4A6A, MSMB, MTHFD1, MTHFD1L, MYBPC3, NAF1, NCKAP5, NKAIN3, NLRP1, NOS3, NPPA, OLR1, PCAT19, PCDH11X, PCK1, PDE4B, PECAM1, PEX6, PHACTR1, PICALM, PLAU, PLCL2, PLD3, PLPP3, POLN, PON2, PPP1R3B, PRRC2C, PSEN1, PSEN2, PSMA6, PSRC1, RNASEL, RPL5, RPS6KB1, RYR2, SAMD12, SCN5A, SELENOP, SEZ6L, SH2B3, SLC30A7, SMAD3, SOD1, SOD3, SORL1, SYK, TAP2, TCF2, TCF7L2, TET1, THBS2, TLR4, TM2D3, TMPO, TMPRSS2, TNF, TNFSF14, TNFSF4, TREM2, TRPM7, TTN, TTPA, TTR, TXNRD2, VDR, XRCC1, ZNF767P, ZNF827, ZPR1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs1333049	CC +	C	HIGH
CASC8	rs6983267	GG +	T	HIGH
INTERGENIC	rs10757278	GG +	G	HIGH
INTERGENIC	rs16901979	AC +	A	HIGH
APOA5	rs12272004	CC +	A	HIGH

1. Nutrient Needs and Metabolism

Vitamin K

Risk factor

MEDIUM-HIGH

Vitamin K is divinity in 3 types: k1, k2 and k3. Vitamin k1 is found naturally in food and is responsible for activating clotting, while vitamin k2 is produced by bacterial flora and helps in the formation of bones and the health of blood vessels.

Recommendations

Consume the RDA of vitamin k daily. Carefully check your vitamin K intake and think about increasing your vitamin K supply.

Observations

Several studies have demonstrated the benefits of vitamin K intake on bone metabolism. SOURCE OF VITAMIN K: *Amount of vitamin K in 100 g. *Raw Cauliflower - 300 mcg *Boiled Chard - 140 mcg *Raw Spinach - 400 mcg *Lettuce - 211 mcg *Raw Carrot - 145 mcg *Avocado - 20 mcg *Strawberries - 15 mcg *Liver - 3.3 mcg *Chicken - 1.2 mcg

Genes (80 genes and 151 SNPs were analyzed)

ABCA1, ACE, ADD1, ADD2, AGT, AGTR1, ARHGEF3, ARMS2, ATP2B1, ATP6V1B1, BAG6, BCAT1, BDNF, BMP2, BMPR1B, BMPR2, C2, C3, CALCA, CASZ1, CBS, CETP, CFB, CFH, CLCN6, COL8A1, CX3CR1, CYP19A1, CYP4A11, CYP4F2, DAPK1, F12, FDPS, FGD6, FTCDNL1, GAD1, GGCX, GPX1, GUCY1A3, HIVEP2, HTRA1, IL-1B, INTERGENIC, ITGA11, LRP4, LRP5, M6PR, MACROD2, MAOA, MOV10, MTHFR, MTRR, MYBPC1, MYO16, NEDD4L, NFE2L2, NGF, NOS3, NOTCH4, NOV, NPPA, NR2F2-AS1, NR3C1, OPRM1, PPARG, PPARGC1A, QPCT, REST, SERPINF1, SHMT1, SKIV2L, STK39, TAP2, TLR3, TRPM6, VDR, VEGFA, VKORC1, WNT16, WSCD2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
OPRM1	rs1799971	GG +	G	HIGH
ARMS2	rs10490924	GT +	T	MEDIUM-HIGH
CFH	rs1061147	CC +	C	LOW
CETP	rs1864163	GG +	A	LOW
CETP	rs5882	AG +	A	LOW

1. Nutrient Needs and Metabolism

Benefit of Zeaxanthin

Risk factor

MEDIUM-NORMAL

Zeaxanthin is a pigment called carotene. Our body does not produce zeaxanthin, however it needs it for some specific functions such as maintaining eye health. Zeaxanthin is found in high concentrations in the macula of the human eye, the part of the eye responsible for central vision, necessary for conducting vision and focusing on reading. It is a compound with antioxidant properties and, thus, in the parts of the body where it is present, it helps to protect against damage caused by free radicals. Zeaxanthin is usually found along with lutein, another phytochemical with properties closely related to it. In fact, in many scientific studies, both substances are mentioned together and their benefits and functions are compared. Its main function is to promote healthy vision. In Brazil there are more than 3 million people with this condition.

Recommendations

May benefit from increased consumption of Zeaxanthin.

Observations

There is currently research supporting the use of zeaxanthin supplements as well as eating zeaxanthin-rich foods to treat health conditions including macular degeneration and cataracts. Zeaxanthin, along with lutein, acts as a vitamin that migrates to the eyes and is aspirated into the lens, macula and penetrates to the center of the retina. In the macula and retina, zeaxanthin helps build a yellow pigment shield that protects eye cells from dangerous frequencies of light.

Genes (32 genes and 67 SNPs were analyzed)

ABCA1, ARMS2, BCO1, C2, C3, CETP, CFB, CFH, COL8A1, CRYBB2, CRYBB3, CRYGD, CX3CR1, EPHA2, FGD6, GJA8, GSR, HTRA1, INTERGENIC, KL, MAF, MC1R, NOTCH4, PITX2, REST, SERPINF1, SIRT1, SKIV2L, SOD2, SOD3, TLR3, VEGFA

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ARMS2	rs10490924	GT +	T	MEDIUM-HIGH
CFH	rs1061147	CC +	C	LOW
CETP	rs1864163	GG +	A	LOW
CETP	rs5882	AG +	A	LOW
CFH	rs1061170	TT +	T	LOW

1. Nutrient Needs and Metabolism

Omega 3

Risk factor

HIGH

Omega-3s are nutrients you get from food (or supplements) that help build and maintain a healthy body. They’re key to the structure of every cell wall you have. They’re also an energy source and help keep your heart, lungs, blood vessels, and immune system working the way they should.

Genes (78 genes and 139 SNPs were analyzed)

ABCA1, ADRB2, AGT, ALOX12, ALOX15, ALOX5, APOA1, APOA4, APOA5, APOC3, APOE, APOE4, ARMS2, BRAP, C2, C3, CDKN2B-AS1, CETP, CFB, CFH, COL8A1, CRYBB2, CRYBB3, CRYGD, CX3CR1, DOCK7, EPHA2, F12, F7, FADS1, FADS2, FGD6, FGF20, FLJ25967, GCKR, GJA8, GSR, HTRA1, IL-4, IL-6, INTERGENIC, ITGB3, JMJD1C, LEPR, LPL, LRP8, MAF, MLXIPL, MMP3, MMP9, MTHFR, MYRF, NOS3, NOTCH4, OLR1, OR4A46P, OXTR, PCIF1, PCSK1, PCSK9, PHYHIP, PITX2, PPARA, PSMA6, PSRC1, PTGS2, RAB11B, REST, SERPINF1, SH2B3, SKIV2L, TLR3, TLR4, TMEM241, TNF, TNFSF4, VEGFA, ZPR1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs1333049	CC +	C	HIGH
INTERGENIC	rs10757278	GG +	G	HIGH
IL-6	rs2069845	AG +	G	HIGH
APOE	rs7412	TT +	T	HIGH
ARMS2	rs10490924	GT +	T	MEDIUM-HIGH

1. Nutrient Needs and Metabolism

Omega 6

Risk factor

HIGH

Omega 6 (linoleic acid) is a polyunsaturated fatty acid, a type of "good" fat found in some foods in the form of oils. It serves mainly to reduce cholesterol (LDL fraction) and triglycerides, helping to prevent cardiovascular diseases, such as heart attacks and strokes. The benefits of omega 6 are mainly related to its effect on blood vessels, by preventing the formation of clots that can detach from the artery wall and obstruct blood flow (thrombosis), causing myocardial infarction (heart attack) and accident cerebral vascular system ("stroke"). Omega 6 also prevents the deposit of fat (cholesterol) on the walls of the arteries, a condition called atherosclerosis, considered one of the main causes of myocardial infarction. In addition, omega 6 acts positively on the immune system, the regulation of body temperature and the loss of water by the body. Like omega 3, omega 6 is considered essential, since it is not produced by the body and therefore needs to be ingested through food.

Genes (226 genes and 369 SNPs were analyzed)

ABCA1, ABCB1, ABCG2, ABCG8, ACE, ACHE, ACP7, ADA, ADAMTS12, ADCY5, ADD1, ADD2, ADIPOQ, ADORA2A, ADRA2A, ADRB2, AGT, AGTR1, AHCY, AOC1, APOC1, APOE, APOE4, AR, ARL15, ASIC2, ATP2B1, ATP6V1B1, BAG3, BAG6, BCAT1, BCR, BDNF, BMPR1B, BMPR2, BRAP, BRCA2, BTD, CACNB2, CALCA, CAPN10, CASZ1, CAV3, CBS, CCL2, CDH13, CDKAL1, CDKN2A, CDKN2A/B, CDKN2B-AS1, CETP, CHRDL1, CHRM2, CLCN6, CLOCK, CPS1, CR1L, CRP, CYP2R1, CYP4A11, CYP51A1, DAPK1, DAT, DMD, DNAH11, DNAJC5B, DNER, DSG2, ENPP1, ERRFI1, ESR1, F12, F13A1, F13B, F2, F5, F7, F9, FABP2, FADS1, FADS2, FAM58A, FGF20, FKBP5, FLJ25967, FMN2, FTO, FUT8, GAD1, GATA2, GATA4, GCK, GCKR, GPHN, GPX1, GPX4, GRK5, GUCY1A3, HABP2, HDAC9, HHEX, HIVEP2, HSPD1, HSPE1, HTR2A, HTR2C, ICAM1, IGF2BP2, IL-1B, IL-4, INSIG2, INTERGENIC, IRS1, ITGA11, ITGB3, JAG1, JAZF1, KCNE1, KCNE2, KCNE3, KCNJ11, KCNQ1, KL, LDLR, LEPR, LIPA, LPL, LRP8, M6PR, MACROD2, MAOA, MMP3, MMP9, MOV10, MRAS, MTHFD1, MTHFD1L, MTHFR, MTNR1B, MTRR, MTTP, MYBPC1, MYBPC3, MYO16, NAA25, NAF1, NEDD4L, NFE2L2, NGF, NINJ2, NOS3, NOTCH2, NOV, NPAS2, NPPA, NR2F2-AS1, NR3C1, OLR1, OPRM1, OXTR, PARK7, PAX4, PDE11A, PDE4D, PDE9A, PECAM1, PEX5L, PHACTR1, PITX2, PLCL2, PLPP3, PPARG, PPARGC1A, PRKCH, PROC, PSMA6, PSRC1, PTPRD, PTPRS, RASGRP1, RBMS1, RHOU, RPSAP52, RYR2, SCN5A, SDHAF4, SELE, SERPINI1, SEZ6L, SH2B3, SHISA6, SHMT1, SLC2A14, SLC30A8, SLC64A, SMAD3, SOD2, SPSB4, STK39, SUPT3H, TAP2, TCF7L2, TGFBR3, THADA, THBD, THBS2, TLR4, TMPO, TNF, TNFSF4, TPH1, TRIB3, TRIM29, TRPM6, TTN, TTR, TWIST1, TXNRD2, UBE2E2, VCAN, VPS26A, VPS33B, WDR12, WFS1, WSCD2, ZFHX3

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs1333049	CC +	C	HIGH
INTERGENIC	rs10757278	GG +	G	HIGH
SLC30A8	rs13266634	CC +	A,T	HIGH
OPRM1	rs1799971	GG +	G	HIGH
PPARG	rs1801282	CG +	C	HIGH

1. Nutrient Needs and Metabolism

Omega 9

Risk factor

HIGH

Omega 9 (ω − 9 fatty acids) are endogenously produced fatty acids (monounsaturated fats) that work in the production of steroid hormones and help in the most effective absorption of some vitamins.

Genes (130 genes and 180 SNPs were analyzed)

ABCA1, ABCG2, ABCG8, ACE, ADAMTS12, ADD1, ADIPOQ, ADRB2, AOC1, APOA5, APOC1, APOE, APOE4, AR, ASIC2, ATP2B1, BAG3, BRAP, BRCA2, BTD, CACNB2, CAV3, CBS, CCL2, CDH13, CDKN2B-AS1, CETP, CHRDL1, CPS1, CR1L, CRP, CYP2R1, CYP51A1, DMD, DNAH11, DNAJC5B, DOCK7, DSG2, ERRFI1, F12, F5, F7, FABP2, FADS1, FADS2, FGF20, FLJ25967, FMN2, FUT8, GAD1, GATA2, GATA4, GCKR, GPX1, HABP2, HDAC9, HSPD1, HSPE1, ICAM1, IL-4, IL-6, INTERGENIC, ITGB3, JAG1, JMJD1C, KCNE1, KCNE2, KCNE3, KCNQ1, KL, LDLR, LIPA, LPL, LRP8, MAOA, MLXIPL, MMP3, MMP9, MRAS, MTHFD1, MTHFD1L, MTHFR, MTRR, MYBPC3, NAA25, NAF1, NINJ2, NOS3, NPPA, OLR1, OR4A46P, PARK7, PCIF1, PDE4D, PECAM1, PHACTR1, PHYHIP, PITX2, PLCL2, PLPP3, PRKCH, PROC, PSMA6, PSRC1, RAB11B, RYR2, SCN5A, SERPINI1, SEZ6L, SH2B3, SHISA6, SMAD3, SPSB4, SUPT3H, THBD, THBS2, TLR4, TMEM241, TMPO, TNF, TNFSF4, TRIM29, TTN, TTR, TWIST1, TXNRD2, VCAN, WDR12, ZFHX3, ZPR1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs1333049	CC +	C	HIGH
INTERGENIC	rs10757278	GG +	G	HIGH
APOE	rs7412	TT +	T	MEDIUM-HIGH
CDKN2B-AS1	rs10116277	TT +	T	LOW
CDKN2B-AS1	rs1063192	TT -	A,T	LOW

1. Nutrient Needs and Metabolism

Benefit of Betaine

Risk factor

MEDIUM-NORMAL

Betaine is a substance produced by the human body, but some individuals may need supplementation to maintain perfect metabolic function and optimal levels of homocysteine. It is involved in different reactions in the liver and assists in the optimal functioning of the cardiovascular, muscular and digestive systems.

Recommendations

Patient can benefit from Betaine supplementation, but only if you notice changes in homocysteine.

Observations

Betaine acts as a methyl donor in the conversion of homocysteine to methionine by BHMT. As it is not clear whether the "G" or "A" allele of G716A increases the need for betaine, this fact can only be assessed if there are other changes in homocysteine metabolism.

Genes (3 genes and 8 SNPs were analyzed)

BHMT, MTHFR, SLC19A1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
SLC19A1	rs1051266	GG -	C,G	LOW
MTHFR	rs1801131	AC -	G	MEDIUM-HIGH
MTHFR	rs1476413	AG -	G,T	NORMAL
BHMT	rs3733890	GG +	A	NORMAL
MTHFR	rs1801133	CC -	A	NORMAL

1. Nutrient Needs and Metabolism

Benefit of Bromelain

Risk factor

MEDIUM-HIGH

Benefit from the anti-inflammatory and fibrinolytic effects of bromelain.

Recommendations

Patient has a great tendency to benefit from the anti-inflammatory and fibrinolytic effects of bromelain, which can be beneficial for individuals with inflammatory atherosclerotic processes.

Observations

Bromelain helps with protein digestion, also helps with allergies and sinusitis, reduces bloating, ulcers and helps in cell renewal in the gastrointestinal tract. Increases the absorption of antibiotics and other medications. It is absorbed and has systemic action, and thus has fibrinolytic action. It is capable of preventing the formation as well as degrading blood clots. Supplementation may therefore be beneficial to those carriers of the "C" risk allele, who are more likely to have an elevated lipid profile, with an associated increased risk of clot formation.

Genes (14 genes and 18 SNPs were analyzed)

APOB, APOE4, C5ORF56, CARD9, HLA-DQA1, IFNG, IL-10RA, IL-10RB, IL-12B, INTERGENIC, NOD2, PLAU, STAT3, TNFSF15

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
IL-12B	rs10045431	CC +	C	HIGH
IL-10RB	rs2834167	AA +	G	MEDIUM-HIGH
HLA-DQA1	rs6927022	GG +	G	MEDIUM-HIGH
INTERGENIC	rs9286879	GG +	G	MEDIUM-HIGH
STAT3	rs744166	TT -	A	MEDIUM-NORMAL

1. Nutrient Needs and Metabolism

Calcium

Risk factor

MEDIUM-NORMAL

Calcium is a nutrient that all living organisms need, including humans. It is the most abundant mineral in the body, and it is vital for bone health. Humans need calcium to build and maintain strong bones, and 99% of the body's calcium is in the bones and teeth.

Recommendations

Consume the RDA of calcium daily.

Observations

To improve the absorption of calcium present in food, ensuring strong bones, it is recommended to exercise, reduce salt intake and be exposed to the sun in the early morning. These tips should be followed especially by those who suffer from osteoporosis, osteopenia and fractures, but it is also suitable for children because they are still growing and for women during menopause, because at this stage the bones tend to get weaker.

Genes (18 genes and 31 SNPs were analyzed)

CARS, CASR, CYP24A1, CYP2R1, DGKH, F13A1, F13B, F2, F5, F9, GATA3, GC, LPL, MCM6, NR3C1, SELE, TNFRSF11B, VDR

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
DGKH	rs1012053	AC +	A	LOW
VDR	rs4516035	CT +	C	MEDIUM-HIGH
CYP2R1	rs10741657	GG +	G	MEDIUM-NORMAL
GC	rs7041	GT -	G	MEDIUM-NORMAL
VDR	rs7975232	AC +	A	NORMAL

1. Nutrient Needs and Metabolism

Copper

Risk factor

HIGH

Evaluates a set of genes, determining whether the copper requirement is above average or greatly increased. Copper helps in the formation of some blood cells, hormones and antioxidant enzymes, it also contributes to the synthesis of neurotransmitters, formation of the myelin sheath and regulation of gene expression.

Genes (88 genes and 127 SNPs were analyzed)

ABCB1, ACE, ADD1, ADRB2, AOC1, APOE, APOE4, ASIC2, ATP2B1, ATP7B, BAG3, BRAP, BTD, CACNB2, CAV3, CCL2, CDH13, CDKN2B-AS1, CETP, CFH, CHRDL1, CRP, CYP2R1, DHFR, DMD, DNAJC5B, DPYD, DSG2, F12, F7, FGF20, FLJ25967, FMN2, FOXE1, GATA2, GATA4, HLA-DRA, HLA-DRB1, HSPD1, HSPE1, HTRA1, IL-4, IL4R, INTERGENIC, ITGB3, JAG1, KCNE1, KCNE2, KCNE3, KCNQ1, KL, LIPA, LRP8, MAOA, MMP3, MMP9, MRAS, MTHFD1, MTHFD1L, MYBPC3, NAF1, NOS3, NPPA, OLR1, PECAM1, PHACTR1, PLCL2, PLPP3, PSMA6, PSRC1, RYR2, SCN5A, SELENBP1, SEZ6L, SH2B3, SMAD3, SMIM1, SOD3, STAT4, THBS2, TLR4, TMPO, TNF, TNFSF4, TTN, TTR, TXNRD2, TYR

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs1333049	CC +	C	HIGH
INTERGENIC	rs10757278	GG +	G	HIGH
SMIM1	rs1175550	TT -	G	HIGH
HLA-DRB1	rs660895	GG +	G	MEDIUM-HIGH
APOE	rs7412	TT +	T	MEDIUM-HIGH

1. Nutrient Needs and Metabolism

Coenzyme Q10

Risk factor

HIGH

Coenzyme Q10, also known as ubiquinone or ubidecarenone, is a molecule produced naturally by our body, being present in high amounts in the cells of the heart, liver, kidneys and pancreas. This molecule is important for the proper functioning of the organism, performing several functions: It increases energy production, decreasing fatigue (tiredness); It has an antioxidant effect, protecting cells from possible damage; Improves cardiovascular function; Stimulates the immune system; Promotes skin cell renewal, slowing skin aging. However, the production of coenzyme Q10 decreases with age: up to the age of 20 or 30 this molecule is released by our bodies in high quantities, but after that age, its production is increasingly reduced. Thus, it is important to compensate for this decrease with the intake of foods that contain the molecule, such as meat, fish and vegetable oils.

Genes (106 genes and 174 SNPs were analyzed)

ABCB1, ACE, ADD1, ADRB2, AOC1, APOE, APOE4, ARHGAP30, ASIC2, ATP2B1, BAG3, BRAP, BTD, CACNB2, CAT, CAV3, CCL2, CDH13, CDKN2B-AS1, CELSR2, CETP, CHRDL1, COLEC12, COQ2, COQ4, COQ6, COQ7, COQ8A, COQ9, CRP, CYP2R1, DHFR, DMD, DNAJC5B, DPYD, DSG2, F12, F7, FGF20, FLJ25967, FMN2, FOXE1, GAD1, GATA2, GATA4, HLA-DRA, HLA-DRB1, HSPD1, HSPE1, IL-4, IL4R, INTERGENIC, ITGB3, JAG1, KCNE1, KCNE2, KCNE3, KCNQ1, KL, LIPA, LIPC, LPL, LRP8, MAOA, MAT1A, MC1R, MC4R, MCT1, MMP3, MMP9, MRAS, MTHFD1, MTHFD1L, MYBPC3, NAF1, NOS3, NPPA, NQO1, NQO2, OLR1, PACERR, PDSS1, PDSS2, PECAM1, PHACTR1, PLCL2, PLPP3, PLTP, PSMA6, PSRC1, RYR2, SCN5A, SEZ6L, SH2B3, SIRT1, SMAD3, STAT4, THBS2, TLR4, TMPO, TNF, TNFSF4, TTN, TTR, TXNRD2, TYR

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs1333049	CC +	C	HIGH
INTERGENIC	rs10757278	GG +	G	HIGH
CAT	rs1001179	AA -	T	MEDIUM-HIGH
HLA-DRB1	rs660895	GG +	G	MEDIUM-HIGH
APOE	rs7412	TT +	T	MEDIUM-HIGH

PRECISION HEALTH PRECISYA

Name: Sample		
Age:	Gender: F	Report Date: 12/09/2025
Prescriber:	Health Insurance:	

Sample

1. Nutrient Needs and Metabolism

Iron

Risk factor

HIGH

Iron is a major component of hemoglobin, a type of protein in red blood cells that carries oxygen from your lungs to all parts of the body. Without enough iron, there aren't enough red blood cells to transport oxygen, which leads to fatigue.

Genes (5 genes and 15 SNPs were analyzed)

HFE, NOS3, TF, TFR2, TMPRSS6

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
HFE	rs1800562	GG +	A	HIGH
TFR2	rs7385804	CC +	C	HIGH
TMPRSS6	rs855791	TT -	G,T	MEDIUM-HIGH
TMPRSS6	rs4820268	GG +	A	MEDIUM-HIGH
TF	rs3811647	AG +	G	MEDIUM-NORMAL

Phosphorus

Risk factor

NORMAL

Phosphorus is a mineral that naturally occurs in many foods and is also available as a supplement. It plays multiple roles in the body. It is a key element of bones, teeth, and cell membranes. It helps to activate enzymes, and keeps blood pH within a normal range.

Recommendations

Consume phosphorus RDA daily.

Genes (5 genes and 6 SNPs were analyzed)

ALPL, C12ORF4, CSTA, PDE7B, TKT

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
CSTA	rs17265703	AA +	G	NORMAL
C12ORF4	rs2970818	TT +	A,C	NORMAL
TKT	rs782092363	GG +	A	NORMAL
PDE7B	rs947583	TT +	C	NORMAL
ALPL	rs1697421	GG -	T	NORMAL

1. Nutrient Needs and Metabolism

Selenium

Risk factor

HIGH

Susceptibility to the need for selenium.

Genes (248 genes and 458 SNPs were analyzed)

A2M, ABCA1, ABCA2, ABCA7, ABCB1, ACE, ADD1, ADH1C, ADRB2, AGAP2, AHI1, ALDH2, ALK, ANKRD1, AOC1, APH1B, APOC1, APOE, APOE4, APP, ARHGAP20, ASIC2, ATM, ATP2B1, ATP8B4, AURKA, BACE1, BAG3, BATF, BCKDK, BCO1, BDNF, BIN1, BRAP, BRCA2, BTD, C1ORF106, CACNB2, CALHM1, CAPZB, CAV3, CBLB, CCDC62, CCHCR1, CCL2, CD2AP, CD58, CD86, CDH13, CDKN1A, CDKN2B-AS1, CETP, CHAT, CHRDL1, CHST12, CLEC16A, CLPTM1L, CLSTN2, CLU, CNKSR3, CNTNAP2, CPS1, CR1, CRP, CTC1, CTLA4, CTNNA3, CYP1A1, CYP1B1, CYP24A1, CYP2E1, CYP2R1, CYP3A4, CYP3A5, DAPK1, DBC1, DHFR, DIO1, DIRC3, DKK1, DKKL1, DLEU1, DLG2, DMD, DMGDH, DNAJC5B, DPYD, DSG2, E2F3, EIF2AK2, ENTPD7, EPHX1, ERG, EVI5, F12, F7, FAM171A2, FAM47E, FAM69A, FASLG, FGF20, FGF7, FLJ25967, FMN2, FOXE1, FRMD4A, G6PD, GAB2, GALNT3, GATA2, GATA4, GBF1, GCKR, GLUD2, GNAI3, GOLM1, GPX1, GPX4, GSTP1, HLA, HLA-DRA, HLA-DRB1, HNF1A, HSPD1, HSPE1, IDE, IL-2RA, IL-4, IL-6, IL-7R, IL4R, INTERGENIC, IRF5, ITGB3, IYD, JAG1, KCNE1, KCNE2, KCNE3, KCNQ1, KL, KLC1, KLRB1, LAG3, LDLR, LIPA, LRP6, LRP8, LRRK2, LTA, MALT1, MAOA, MAOB, MAPT, MC1R, MCCC1, MDM2, MERTK, MME, MMP3, MMP9, MPO, MPV17L2, MRAS, MS4A6A, MTF1, MTHFD1, MTHFD1L, MTHFR, MTRR, MYBPC3, NAF1, NCKAP5, NFE2L2, NLRP1, NOS3, NPPA, OLR1, PCDH11X, PCK1, PDE4B, PDE8B, PECAM1, PEX6, PHACTR1, PHTF1, PICALM, PIK3CA, PLAU, PLCL2, PLD3, PLPP3, POLN, PPP1R3B, PRDM2, PRRC2C, PSEN1, PSEN2, PSMA6, PSRC1, PTCSC2, PTEN, RAB25, RNASEL, RPL5, RPS6KB1, RYR2, SAMD12, SCN5A, SELENOF, SELENOP, SEMA5A, SEZ6L, SH2B3, SH3GL2, SLC30A7, SLC39A11, SLC39A6, SMAD3, SNCA, SOD2, SORL1, STAT4, SYK, TAP2, TERT, TET1, TG, THBS2, TLR4, TM2D3, TMPO, TNF, TNFSF14, TNFSF4, TPO, TREM2, TSHR, TTN, TTR, TXNRD2, TYR, USP24, USP40, VAV3, XPC, XRCC1, ZNF767P

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs1333049	CC +	C	HIGH
INTERGENIC	rs10757278	GG +	G	HIGH
HLA-DRB1	rs660895	GG +	G	MEDIUM-HIGH
APOE	rs7412	TT +	T	MEDIUM-HIGH
CDKN2B-AS1	rs10116277	TT +	T	LOW

1. Nutrient Needs and Metabolism

Folate

Risk factor

MEDIUM-NORMAL

Also known as folate, methylfolate or vitamin B9, it is a water-soluble B complex vitamin. Folate occurs naturally in food and folic acid is the synthetic form of folate, used in medicines and some supplements. It is involved in essential functions in all cells, such as nucleotide biosynthesis, DNA synthesis and repair. Pregnant women need increased amounts of folate for normal fetal development

Recommendations

Consume the RDA of folate daily. Eat raw green leafy vegetables, asparagus, broccoli, fruits (preferably citrus) and liver.

Observations

The requirements for the enrichment of wheat and corn flour with iron and folic acid have been updated. ANVISA published Resolution RDC No. 150 of 2017. This regulation updates RDC No. 344 of 2002, which addresses this topic. Folic acid helps combat anemia and birth defects during pregnancy. Those with an MTHFR mutation should avoid consuming flours enriched with folic acid.

Genes (6 genes and 14 SNPs were analyzed)

BHMT, FOLR1, FOLR2, MTHFD1, MTHFR, SHMT1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
FOLR2	rs651933	AA +	A	MEDIUM-HIGH
MTHFR	rs1801131	AC -	G	MEDIUM-HIGH
MTHFR	rs1476413	AG -	G,T	NORMAL
MTHFD1	rs1076991	AG -	C,G	NORMAL
MTHFR	rs1801133	CC -	A	NORMAL

1. Nutrient Needs and Metabolism

Potassium

Risk factor

NORMAL

Potassium is an essential mineral that is needed by all tissues in the body. It is sometimes referred to as an electrolyte because it carries a small electrical charge that activates various cell and nerve functions. Potassium is found naturally in many foods and as a supplement.

Recommendations

Consume the RDA of potassium daily.

Genes (2 genes and 4 SNPs were analyzed)

MAT1A, SCNN1B

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
MAT1A	rs118204001	TT -	C	NORMAL
SCNN1B	rs889299	CC -	A	NORMAL

Deficiency in Fat Metabolism

Risk factor

HIGH

Speed that the body performs the metabolism of fats.

Genes (148 genes and 203 SNPs were analyzed)

AATK, ACE, ACMSD, ADCYAP1, ADIPOQ, ADRA2A, ADRB3, ADSS, AK8, ALLC, ANKAR, ANKK1, APOA5, APOE, ARHGAP11A, ARHGAP24, ARMC4, ASIC2, ASTN2, AUTS2, BICC1, BICD1, C2CD4C, C8ORF34, CA8, CADM1, CAMK2A, CCDC33, CCDC77, CD46, CDCA3, CDHR3, CELF2, COL4A1, COLEC12, CSMD1, CTNNBL1, CYP2E1, DAPL1, DDX60L, DLC1, DLG2, DMRT1, DOCK8, ECT2, EEPD1, EHF, EVA1A, FAM129A, FAM19A2, FAM209B, FAM71F1, FARP1, FLJ33534, FSIP1, FTO, GCH1, GHRL, GMDS, GPC5, GSG1L, HDAC9, IFI16, IFNGR2, IL-1A, IL-1B, INSIG2, INTERGENIC, JDP2, KCNB1, KIF6, KIRREL, LEPR, LGALS17A, LHPP, LINC00704, LINC01299, LINC01500, LIPC, LPP, MC4R, MDFIC, NAT2, NDUFA8, NIPSNAP3B, NLRP8, NMNAT2, NPM2, NXPH1, PCDH9, PCSK1, PFKP, PIP4K2A, PKNOX2, PLEKHG1, PLIN1, POC5, PON1, PPARG, PPARGC1A, PPM1H, PTPRD, PTPRN2, PVALB, RAB17, RASEF, RBBP6, RBFOX1, RIC3, RLN3, RPTOR, RSU1, RYR2, S100P, SCG3, SDC3, SERPINA12, SLC22A2, SLC22A23, SLC29A3, SMYD3, SNRPN, SORBS1, SPAG16, SPOCK3, STON2, SYT1, TBC1D1, TCF4, TM9SF2, TMEM18, TMEM229B, TMEM45B, TMOD1, TNFRSF1B, TPTE2P1, TRABD2B, TRAPPC9, TRIM66, TUB, UGT2B7, UNC13A, UNC5C, VSIG10, WDPCP, WDR11-AS1, ZBTB46, ZNF536

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PPARG	rs1801282	CG +	C	HIGH
ANKK1	rs1800497	CT -	A	HIGH
PTPRD	rs1975197	CC -	A	LOW
FTO	rs9939609	TT +	A	LOW
CDCA3	rs5443	CT +	T	MEDIUM-HIGH

Name: Sample		
Age:	Gender: F	Report Date: 12/09/2025
Prescriber:	Health Insurance:	

Sample

1. Nutrient Needs and Metabolism

Micronutrient Metabolism

Risk factor

MEDIUM-NORMAL

Speed at which the body performs the metabolism of multiple micronutrients.

Recommendations

Note that results in yellow indicate that the individual has a slightly better micronutrient metabolism.

Genes (6 genes and 8 SNPs were analyzed)

DLAT, ENO3, MTNR1B, PCK1, SLC2A9, SLC5A1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PCK1	rs8192708	AG +	G	MEDIUM-NORMAL
ENO3	rs238238	AG +	G	NORMAL
DLAT	rs2303436	AG -	T	NORMAL
MTNR1B	rs10830963	CC +	G	NORMAL
SLC2A9	rs3733591	GG -	T	NORMAL

Metabolism of Xenobiotics (including caffeine and P-450)

Risk factor

MEDIUM-NORMAL

They are chemical compounds foreign to an organism or biological system. It can be found in an organism, but it is not normally produced or expected to exist in that organism. In orange or red it indicates the presence of polymorphisms associated with an increased metabolism of Xenobiotics.

Recommendations

Patient has an average tendency for increased metabolism of Xenobiotics.

Observations

Xenobiotics are substances that are not produced by organisms, such as industrial products, therapeutic drugs, food additives, inorganic compounds, etc.

Genes (1 genes and 2 SNPs were analyzed)

CYP1A2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
CYP1A2	rs762551	AC +	C	MEDIUM-HIGH
CYP1A2	rs56107638	GG +	A,C	NORMAL

1. Nutrient Needs and Metabolism

Caffeine Metabolization

Risk factor

MEDIUM-NORMAL

Analysis of a set of genes involved in the metabolism of caffeine. Indicates whether this metabolism is more or less efficient. Indication in orange or red indicates faster metabolism, and thus, less effect, with lower doses of it.

Recommendations

Limit caffeine intake to 300 (for women of childbearing age) or 400 mg / day (other adults), daily.

Genes (6 genes and 8 SNPs were analyzed)

ADORA2A, AHR, CYP1A1, CYP1A2, RYR1, UBL7

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
AHR	rs6968865	AT +	T	MEDIUM-HIGH
CYP1A2	rs762551	AC +	C	MEDIUM-HIGH
ADORA2A	rs2298383	CT +	C	NORMAL
RYR1	rs186983396	CC +	T	NORMAL
CYP1A1	rs2472297	CC +	T	NORMAL

1. Nutrient Needs and Metabolism

Benefit of Probiotics

Risk factor

MEDIUM-HIGH

Probiotics are defined as living microorganisms that, when consumed, act in the gastrointestinal tract of the host organism, improving bowel functions. Polymorphisms can influence the degree of benefit that probiotics have on your immune system. If indicated in orange or red, you have a greater immune benefit from them.

Recommendations

Patient tend to benefit from probiotic supplementation.

Observations

Probiotics are defined as live microorganisms that, when administered in sufficient quantity, confer a health benefit to the host. These microorganisms are used in pharmaceutical preparations or fermented products. Saccharomyces boulardii, a non-pathogenic yeast, was isolated from lychee and mangosteen fruits. It has been used in the treatment of different types of diarrhea such as: diarrhea associated with the use of antibiotics, traveler's diarrhea and diarrhea in HIV-infected patients. This yeast has been shown to modulate the immune system, degrade toxins as well as their respective receptors in the intestinal mucosa, inhibit the action of cholera toxin, modulate enteropathogen-induced signal transduction pathways, stimulate enzymatic activity and fix some bacteria in the its surface. All supplementation must be carried out with medical/nutritionist supervision.

Genes (17 genes and 28 SNPs were analyzed)

ABCB1, ATG16L1, BSN, DHFR, DPYD, FCER1A, FOXE1, HLA-DRA, HLA-DRB1, IL-23R, IL4R, INTERGENIC, NOD2, PEX14, STAT4, TGFB1, TYR

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
HLA-DRB1	rs660895	GG +	G	MEDIUM-HIGH
TGFB1	rs1800469	CT -	G	MEDIUM-HIGH
STAT4	rs10181656	CG +	C	MEDIUM-NORMAL
FCER1A	rs2251746	TT +	C	MEDIUM-NORMAL
NOD2	rs17221417	CG +		MEDIUM-NORMAL

1. Nutrient Needs and Metabolism

Lower LDL in Diets Low in Unsaturated Fats

Risk factor

NORMAL

Associated with reduced LDL cholesterol levels in individuals with a LOW / POOR diet in unsaturated fats.

Recommendations

Patient has a normal tendency to decrease LDL in diets low in unsaturated fats.

Genes (1 genes and 1 SNPs were analyzed)

FADS1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
FADS1	rs174547	TT +	C	NORMAL

Iodine

Risk factor

MEDIUM-HIGH

Many genes involved in thyroid function and autoimmune disorders are sensitive to iodine intake. Variations in these genes can increase the risk of iodine deficiency, hypothyroidism and developmental delays early in life. For people who carry these variations, adequate iodine intake is especially important to minimize the risk of thyroid dysfunction.

Recommendations

Check the daily consumption of iodine and study the possibility of increasing its consumption.

Genes (86 genes and 147 SNPs were analyzed)

ABCC4, ARVCF, ATM, AURKA, BARD1, BMPR1B, BRCA1, BRCA2, CAPZB, CASC16, CASC17, CASC21, CASC8, CASP8, CCNE1, CDH1, CDKN1A, CDKN1B, CDKN2A, CDKN2B-AS1, CHEK2, COMT, CTLA4, CYP17A1, CYP24A1, CYP3A4, DAB2IP, DIO2, EHBP1, ELAC2, EPCAM, ESR2, FAM124A, FANCA, FCHSD1, FGF7, FGFR2, FGFR4, FTO, FYCO1, GAD1, GPX4, GSTP1, HER2, HLA, HMMR, HNF1B, IL-10, INTERGENIC, ITGA2, ITGA6, JAZF1, KIAA1211, KLF6, LPAR6, LSP1, MAGEC3, MAP3K1, MRPS30, MSMB, NCOA3, NOS3, NQO1, PCAT19, PDE8B, PHTF1, PTCSC2, RNASEL, SELENOP, SH2B3, SLCO1B3, STAT5B, TCF2, TCF7L2, TG, TMPRSS2, TNF, TP53, TPD52, VAV3, VDR, VTCN1, WRN, XRCC1, XRCC2, ZNF827

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
CASC8	rs6983267	GG +	T	HIGH
INTERGENIC	rs16901979	AC +	A	HIGH
TP53	rs1042522	CG -	C,T	LOW
SLCO1B3	rs11045585	AA +	G	LOW
RNASEL	rs3738579	CT -	G	LOW

1. Nutrient Needs and Metabolism

Benefit of Melatonin

Risk factor

LOW

Benefit of using melatonin. Melatonin is called by many "sleep hormone", since its release is regulated by exposure to light, and it is in the absence of light that we release it. Despite not being a potent inducer of sleep (adenosine is the inducer of sleep), melatonin is fundamental in the sensation of regenerated awakening the next morning, while excess adenosine keeps the individual sleepy the next morning. If indicated in orange or red, it has a greater benefit of melatonin supplementation.

Recommendations

It does not tend to benefit from melatonin supplementation.

Genes (4 genes and 5 SNPs were analyzed)

ASMT, MTNR1A, MTNR1B, TPH2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
MTNR1B	rs10830963	CC +	G	LOW
MTNR1A	rs12506228	GT -	A	LOW
TPH2	rs4570625	GT +	G	NORMAL

2. Body composition

Tendency to Depression

Risk factor

MEDIUM-NORMAL

Mental disorder characterized by persistent depression or loss of interest in activities, significantly impairing daily life. It can trigger other diseases and conditions, such as lack of appetite or exaggerated appetite.

Recommendations

Patient has a medium tendency to stop Depression. Some strategies can be considered: physical exercises in general, zinc, vitamin D, tryptophan, 5HTP, tetrahydrobiopterin and pyridoxine (B6) can be useful, in individuals in orange or red.

Observations

Depression is a multifactorial disorder, in this exam only the genetic tendency is observed. There are several possible causes for depression, such as metabolic or hormonal imbalances, environments of constant competition, alcohol and drug use, lack of affection and empathy between people.

Genes (8 genes and 8 SNPs were analyzed)

BDNF, COMT, CRHR1, HTR1A, HTR2A, SLC6A15, TPH1, TPH2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
HTR2A	rs6311	CT +	C	MEDIUM-HIGH
COMT	rs4680	AG +	A	NORMAL
BDNF	rs6265	GG -	T	NORMAL
TPH1	rs1800532	AC -	T	NORMAL
TPH2	rs4570625	GT +	G	NORMAL

2. Body composition

Slimming with more protein intake than carbohydrates

Risk factor

MEDIUM-HIGH

Some people tend to lose more weight than others, by eating a diet with a higher proportion than usual, of proteins, and less than usual, of carbohydrates. Indications in orange or red indicate a greater tendency for this type of diet to be the most appropriate.

Recommendations

Tendency to benefit from diets where you consume more proteins than carbohydrates. Consume 25% to 35% of energy from protein.

Genes (143 genes and 196 SNPs were analyzed)

AATK, ACMSD, ADCYAP1, ADIPOQ, ADRA2A, ADRB3, ADSS, AK8, ALLC, ANKAR, ANKK1, APOA5, ARHGAP11A, ARHGAP24, ARMC4, ASIC2, ASTN2, AUTS2, BICC1, BICD1, C2CD4C, C8ORF34, CA8, CADM1, CAMK2A, CCDC33, CCDC77, CD46, CDCA3, CDHR3, CELF2, COL4A1, COLEC12, CSMD1, CTNNBL1, CYP2E1, DAPL1, DDX60L, DLC1, DLG2, DMRT1, DOCK8, ECT2, EEPD1, EHF, EVA1A, FAM129A, FAM19A2, FAM209B, FAM71F1, FARP1, FLJ33534, FSIP1, FTO, GCH1, GHRL, GMDS, GPC5, GSG1L, HDAC9, IFI16, IFNGR2, IL-1A, IL-1B, INSIG2, INTERGENIC, JDP2, KCNB1, KIF6, KIRREL, LEPR, LGALS17A, LHPP, LINC00704, LINC01299, LINC01500, LIPC, LPP, MC4R, MDFIC, NAT2, NDUFA8, NIPSNAP3B, NLRP8, NMNAT2, NPM2, NXPH1, PCDH9, PCSK1, PFKP, PIP4K2A, PKNOX2, PLEKHG1, POC5, PPARG, PPM1H, PTPRD, PTPRN2, PVALB, RAB17, RASEF, RBBP6, RBFOX1, RIC3, RLN3, RPTOR, RSU1, RYR2, S100P, SCG3, SDC3, SERPINA12, SLC22A2, SLC22A23, SLC29A3, SMYD3, SNRPN, SORBS1, SPAG16, SPOCK3, STON2, SYT1, TBC1D1, TCF4, TM9SF2, TMEM18, TMEM229B, TMEM45B, TMOD1, TNFRSF1B, TPTE2P1, TRABD2B, TRAPPC9, TRIM66, TUB, UGT2B7, UNC13A, UNC5C, VSIG10, WDPCP, WDR11-AS1, ZBTB46, ZNF536

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PPARG	rs1801282	CG +	C	HIGH
PTPRD	rs1975197	CC -	A	LOW
FTO	rs9939609	TT +	A	LOW
ANKK1	rs1800497	CT -	A	MEDIUM-HIGH
CDCA3	rs5443	CT +	T	MEDIUM-HIGH

Weight Loss with Carbohydrate Restriction

Risk factor

HIGH

Carbohydrate-restricted diets have proven to be a successful dietary treatment of obesity for many people, but the degree of weight loss varies between individuals. If indicated in orange or red, this individual is likely to have a greater benefit from restricting carbohydrates in inducing weight loss.

Genes (7 genes and 7 SNPs were analyzed)

AMY1A, CETP, FABP2, GAL, GYS2, LIPF, PPM1K

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
FABP2	rs1799883	GG -	A,C,G	HIGH
CETP	rs5883	CC +	T	NORMAL
PPM1K	rs1440581	AG -	A,C	NORMAL

2. Body composition

Weight Loss with Calorie Restriction

Risk factor

MEDIUM-HIGH

Result in Orange or Red indicates easier weight loss and loss of abdominal fat in diets with caloric restriction.

Recommendations

Patient presents medium-high tendency of weight loss and loss of abdominal fat in diets with caloric restriction.

Genes (6 genes and 7 SNPs were analyzed)

AMY1A, BDNF, FTO, LEPR, PLIN1, TCF7L2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
BDNF	rs10767664	AA +	T	HIGH
PLIN1	rs894160	GG -	T	NORMAL
FTO	rs1558902	TT +	A	NORMAL
TCF7L2	rs7903146	CC +	G,T	NORMAL
LEPR	rs1805134	TT +	C	NORMAL

Slimming with more fiber intake

Risk factor

HIGH

Orange or red results indicate greater benefit in increasing fiber intake and achieving weight loss.

Genes (2 genes and 3 SNPs were analyzed)

FTO, TCF7L2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
TCF7L2	rs7903146	CC +	G,T	HIGH
FTO	rs121918214	GG +	A	NORMAL
FTO	rs9930506	AA +	G	NORMAL

2. Body composition

Difficulty in Maintaining Weight

Risk factor

MEDIUM-NORMAL

It is the care taken to be able to be at the appropriate weight, as an example, the difficulty in losing weight. Orange and red indicates greater difficulty in maintaining body weight.

Recommendations

Patient has a medium tendency to have difficulty maintaining body weight.

Genes (4 genes and 4 SNPs were analyzed)

ADRB2, ADRB3, CLOCK, FABP2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ADRB2	rs1042713	GG +	A	MEDIUM-HIGH
FABP2	rs1799883	GG -	A,C,G	NORMAL
CLOCK	rs1801260	AA +	C,G,T	NORMAL
ADRB3	rs4994	TT -	G	NORMAL

Thinning with the consumption of complex carbohydrates

Risk factor

MEDIUM-NORMAL

Result in Orange or Red indicates easier weight loss (weight loss) with the consumption of complex carbohydrates.

Recommendations

Patient has an average weight loss trend with the consumption of complex carbohydrates.

Genes (3 genes and 3 SNPs were analyzed)

IRS1, PPM1K, QPCTL

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
IRS1	rs2943641	CT +	C	MEDIUM-NORMAL
PPM1K	rs1440581	AG -	A,C	MEDIUM-NORMAL
QPCTL	rs2287019	CC +	T	NORMAL

2. Body composition

Slimming with Fat Reduction

Risk factor

NORMAL

Result in Orange or Red indicates easier weight loss (Weight loss) in Diets with Fat Reduction.

Recommendations

Presents a normal weight loss trend in Diets with Fat Reduction. Avoid excessive consumption of fatty foods.

Genes (5 genes and 5 SNPs were analyzed)

ADIPOQ, CLOCK, IRS1, MTNR1B, PPM1K

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
IRS1	rs2943641	CT +	C	MEDIUM-NORMAL
MTNR1B	rs10830963	CC +	G	NORMAL
PPM1K	rs1440581	AG -	A,C	NORMAL
CLOCK	rs1801260	AA +	C,G,T	NORMAL
ADIPOQ	rs17300539	GG +	A	NORMAL

Preference for bitter foods

Risk factor

LOW

The preference for bitter foods is linked to genetics. Orange or Red results indicate a greater preference for bitter foods.

Recommendations

There is no risk of excessive consumption of bitter foods.

Genes (1 genes and 3 SNPs were analyzed)

TAS2R38

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
TAS2R38	rs10246939	TT +	C	LOW
TAS2R38	rs713598	GG -	G	LOW
TAS2R38	rs1726866	TT -	A	LOW

2. Body composition

Preference for sweet foods

Risk factor

MEDIUM-HIGH

The preference for sweet foods (sugar) is linked to genetics. Orange or Red results indicate a greater preference for sweet foods.

Recommendations

Patient has a greater risk of excessive sugar consumption. This indicates that you may be more likely to eat sweet foods and drinks. Keep your intake of added sugars below 5% of your total caloric intake.

Genes (4 genes and 5 SNPs were analyzed)

FGF21, SLC2A2, TAS1R2, TAS1R3

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
SLC2A2	rs5400	TT -	A	HIGH
FGF21	rs838133	CT -	A	MEDIUM-NORMAL
TAS1R3	rs307377	CC +	A,C	NORMAL

Preference for fatty foods

Risk factor

HIGH

The preference for fatty foods is linked to genetics. Orange or Red results indicate a greater preference for fatty foods.

Genes (4 genes and 5 SNPs were analyzed)

ANKK1, CD36, FGF21, FTO

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ANKK1	rs1800497	CT -	A	HIGH
CD36	rs1761667	AG +	A	MEDIUM-HIGH
FGF21	rs838145	CT -	A	NORMAL
FTO	rs9939609	TT +	A	NORMAL

2. Body composition

Tendency to Obesity

Risk factor
HIGH

We evaluated here a set of genes whose polymorphisms were associated with a higher risk of developing obesity. Orange or red results indicate greater tendency towards obesity.

Genes (172 genes and 263 SNPs were analyzed)

AATK, ACMSD, ADCYAP1, ADIPOQ, ADRA2A, ADRB2, ADRB3, ADSS, AGRP, AK8, AKT1, ALLC, ANKAR, ANKK1, APOA1, APOA2, APOA4, APOA5, APOB, APOE, ARHGAP11A, ARHGAP24, ARMC4, ASIC2, ASTN2, AUTS2, BDNF, BICC1, BICD1, C2CD4C, C8ORF34, CA8, CADM1, CAMK2A, CCDC33, CCDC77, CCK, CD46, CDCA3, CDHR3, CELF2, CLOCK, COL4A1, COLEC12, CSMD1, CYP2E1, DAPL1, DDX60L, DLC1, DLG2, DMRT1, DOCK8, ECT2, EEPD1, EHF, EVA1A, FABP2, FAM129A, FAM19A2, FAM209B, FARP1, FLJ33534, FSIP1, FTO, GABPB1, GCH1, GHRL, GHSR, GMDS, GPC5, GSG1L, GSTM1, HDAC9, IFI16, IFNGR2, IL-1A, IL-1B, IL-1RN, IL-6, INSIG2, INTERGENIC, JDP2, KCNB1, KCNMA1, KIF6, KIRREL, KLF7, LEP, LEPR, LGALS17A, LHPP, LINC00704, LINC01299, LINC01500, LIPC, LPP, MC4R, MDFIC, MSRA, NAT2, NDUFA8, NFE2L2, NIPSNAP3B, NLRP8, NMNAT2, NPM2, NXPH1, PCDH9, PCSK1, PFKP, PIP4K2A, PKNOX2, PLEKHG1, PLIN1, POC5, POMC, PPARG, PPARGC1A, PPARGC1B, PPM1H, PTPRD, PTPRN2, PVALB, PYY, RAB17, RASEF, RBBP6, RBFOX1, RIC3, RLN3, RPTOR, RSU1, RYR2, S100P, SCG3, SDC3, SERPINA12, SLC22A2, SLC22A23, SLC29A3, SMYD3, SNRPN, SOCS3, SORBS1, SPAG16, SPOCK3, STON2, SYT1, TBC1D1, TCF4, TCF7L2, TM9SF2, TMEM18, TMEM229B, TMEM45B, TMOD1, TNFRSF1B, TPTE2P1, TRABD2B, TRAPPC9, TRIM66, TUB, UCP1, UCP2, UGT2B7, UNC13A, UNC5C, VSIG10, WDPCP, WDR11-AS1, ZBTB46, ZNF536

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PPARG	rs1801282	CG +	C	HIGH
BDNF	rs988712	GG +	G	HIGH
KCNMA1	rs2116830	CC -	C	HIGH
PTPRD	rs1975197	CC -	A	LOW
FTO	rs9939609	TT +	A	LOW

Tendency to Obesity (monogenic)

Risk factor
NORMAL

With regard to genetic tendency, the most common form currently found in obesity is that related to Leptin polymorphisms. If indicated in orange or red, it shows these leptin polymorphisms.

Recommendations

Practice 150 minutes a week of aerobics and at least 2 days a week of muscle strengthening activities.

Observations

It is noteworthy that obesity is multifactorial, and here only a genetic tendency is observed.

Genes (2 genes and 2 SNPs were analyzed)

LEP, LEPR

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
LEPR	rs1137101	AA +	G	NORMAL

2. Body composition

Mitochondrial Energy Production

Risk factor

MEDIUM-NORMAL

It refers to the general efficiency of mitochondrial energy production processes, considering multiple genes that interact.

Recommendations

If you are trying to lose weight, reduce energy consumption from food or increase your energy production through physical activity, to around 550 calories per day of your energy expenditure.

Observations

In men, a worsening in mitochondrial function can be easily detected through a worsening in the quality of the spermogram. In women, there is no simple and reliable exam to make such an assessment.

Genes (49 genes and 67 SNPs were analyzed)

ACTN3, ADRB2, ADRB3, AGTR2, AMPD1, ARHGEF28, ATP5G3, CALCR, CKM, CLOCK, CLSTN2, CREM, CRP, DMD, EPAS1, FOCAD, GABRR1, GALNT13, GPC5, HIF1A, IGF1, IL-6, IP6K3, MCT1, MMP3, MPRIP, MSTN, MT-ND4, MTHFR, MTR, MTRR, NDUFS3, NDUFS7, NDUFS8, NOS3, NRG1, PPARA, PPARD, PPARG, PPARGC1A, PPARGC1B, SLC16A1, SUCLA2, TPK1, TRHR, UCP2, UQCRC2, VDR, ZNF423

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
NOS3	rs2070744	TT +	T	LOW
MMP3	rs679620	AG -	C	LOW
GPC5	rs2352028	CT +	G,T	MEDIUM-HIGH
NDUFS8	rs999571	CC -	A	MEDIUM-HIGH
UCP2	rs660339	CT -	T	MEDIUM-NORMAL

2. Body composition

Tendency to Anxiety

Risk factor

MEDIUM-NORMAL

Tendency to be an anxious person can be influenced by the polymorphisms of several genes. Orange or Red results indicate a greater tendency to be anxious.

Recommendations

Patient has a medium tendency to be anxious. Some strategies can be considered: physical exercises in general, zinc, vitamin D, tryptophan, 5HTP, tetrahydrobiopterin and pyridoxine (B6) can be useful, in individuals in orange or red.

Genes (6 genes and 11 SNPs were analyzed)

AVPR1A, BDNF, MAOA, NGF, RGS2, TPH2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
RGS2	rs4606	CC +	G	MEDIUM-HIGH
MAOA	rs909525	GG -	T	MEDIUM-HIGH
TPH2	rs4565946	CT +	A,G,T	NORMAL
TPH2	rs4570625	GT +	G	NORMAL
BDNF	rs6265	GG -	T	NORMAL

Weight gain with saturated fat intake

Risk factor

HIGH

Some people are more likely to accumulate body fat (gain weight) with a diet high in saturated fats.

Genes (152 genes and 198 SNPs were analyzed)

AATK, ACMSD, ADCYAP1, ADIPOQ, ADRA2A, ADRB3, ADSS, AK8, ALLC, ANKAR, ANKK1, APOA2, APOA5, ARHGAP11A, ARHGAP24, ARMC4, ASIC2, ASTN2, AUTS2, BDNF, BICC1, BICD1, C2CD4C, C8ORF34, CA8, CADM1, CAMK2A, CCDC33, CCDC77, CD46, CDCA3, CDHR3, CEBPB-AS1, CELF2, CLOCK, COL4A1, COLEC12, CSMD1, CTNNBL1, CYP2E1, DAPL1, DDX60L, DLC1, DLG2, DMRT1, DOCK8, ECT2, EEPD1, EHF, EVA1A, FABP2, FAM129A, FAM19A2, FAM209B, FAM71F1, FARP1, FLJ33534, FSIP1, FTO, GCH1, GHRL, GMDS, GPC5, GSG1L, HDAC9, IFI16, IFNGR2, IL-1A, IL-1B, INSIG2, INTERGENIC, JDP2, KCNB1, KIF6, KIRREL, LEPR, LGALS17A, LHPP, LINC00704, LINC01299, LINC01500, LIPC, LPP, LRP1, MC4R, MDFIC, NDUFA8, NIPSNAP3B, NLRP8, NMNAT2, NPM2, NXPH1, PCDH9, PCSK1, PFKP, PIP4K2A, PKNOX2, PLEKHG1, POC5, PPARG, PPM1H, PTPRD, PTPRN2, PVALB, RAB17, RASEF, RBBP6, RBFOX1, RIC3, RLN3, RPTOR, RSU1, RYR2, S100P, SCG3, SDC3, SEC16B, SERPINA12, SIRT1, SLC22A23, SLC29A3, SMYD3, SNRPN, SORBS1, SPAG16, SPOCK3, STAT3, STON2, SYT1, TBC1D1, TCF4, TCF7L2, TM9SF2, TMEM18, TMEM229B, TMEM45B, TMOD1, TNF, TNFRSF1B, TPTE2P1, TRABD2B, TRAPPC9, TRIM66, TUB, UGT2B7, UNC13A, UNC5C, VSIG10, WDPCP, WDR11-AS1, ZBTB46, ZNF536

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PPARG	rs1801282	CG +	C	HIGH
ANKK1	rs1800497	CT -	A	HIGH
APOA5	rs3135506	GG +	C	MEDIUM-HIGH
BDNF	rs6265	GG -	T	LOW
PTPRD	rs1975197	CC -	A	LOW

3. Physical activity

Physical Resistance

Risk factor

HIGH

It is one of the fundamental skills in everyday life and is very much related to life habits. Related to the time to achieve fatigue.

Genes (44 genes and 63 SNPs were analyzed)

ACE, ACOXL, ACTN3, ADRB1, ADRB2, ADRB3, AGTR2, APOE, CAMK1D, CDCA3, CLSTN2, CPQ, CRP, EPAS1, FMNL2, GABPB1, GALM, GNB3, GRM3, HFE, HIF1A, IL-15RA, ITPR1, KCNJ11, L3MBTL4, MCT1, NALCN-AS1, NFATC4, NFIA-AS2, NRF2, PPARA, PPARD, PPARGC1B, RBFOX1, SGMS1, SLC2A4, SOD2, SPOCK1, TPK1, TSHR, UCP2, UCP3, VEGFA, VEGFR2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
HFE	rs1799945	GG +	G	HIGH
PPARA	rs4253778	GG +	C,T	HIGH
CDCA3	rs5443	CT +	T	MEDIUM-HIGH
ACE	rs4341	CG +	C	MEDIUM-HIGH
ADRB1	rs1801253	CC +	C	MEDIUM-NORMAL

Tendency to Fractures

Risk factor

MEDIUM-NORMAL

Greater or lesser ease in having bone fractures.

Recommendations

Patient has a medium tendency to have easy fractures, regular physical activity and good muscle strengthening (hypertrophy) can minimize these risks.

Genes (4 genes and 5 SNPs were analyzed)

CALCR, ESR1, ITGB3, P2RX7

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
CALCR	rs1801197	TT -	G	MEDIUM-HIGH
ESR1	rs2234693	CT +	A,T	MEDIUM-HIGH
ESR1	rs9340799	AG +	G	MEDIUM-HIGH
P2RX7	rs3751143	AC +	C	MEDIUM-NORMAL
ITGB3	rs5918	TT +	C	NORMAL

3. Physical activity

Aerobic Capacity

Risk factor

MEDIUM-HIGH

Potential that the individual has to produce body energy through oxygen. Orange or red results indicate greater aerobic capacity.

Recommendations

Patient tends to benefit and perform better in exercises that increase your heart rate, such as running, cycling, swimming or dancing.

Genes (5 genes and 9 SNPs were analyzed)

ADRB2, GABPB1, PPARA, PPARGC1A, VEGFA

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PPARA	rs4253778	GG +	C,T	HIGH
ADRB2	rs1042713	GG +	A	NORMAL
ADRB2	rs1800888	CC +	T	NORMAL
VEGFA	rs3024994	CC +	T	NORMAL
VEGFA	rs3025039	CC +	T	NORMAL

Muscle Strength

Risk factor

MEDIUM-HIGH

It can be defined as the amount of tension that a muscle or muscle group can generate within a specific movement pattern and with a certain movement speed. Orange or red results indicate greater muscle strength.

Recommendations

Patient has a genetic advantage to stand out in sports that need strength.

Genes (10 genes and 11 SNPs were analyzed)

ACTN3, ACVR1B, AGT, HIF1A, IL-6, MSTN, NOS3, PPARA, TRHR, VDR

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ACVR1B	rs2854464	AA +	C,G	HIGH
NOS3	rs2070744	TT +	T	MEDIUM-HIGH
ACTN3	rs1815739	CT +	T	MEDIUM-HIGH
AGT	rs699	CT -	G	MEDIUM-NORMAL
HIF1A	rs11549465	CC +	T	NORMAL

3. Physical activity

Muscle Mass Gain

Risk factor
MEDIUM-HIGH

Muscle mass is also known as lean mass. Our body is composed of water, lean mass and fat mass. These are the components that give us a weight when we get on the scale, but each of them indicates different aspects. A person, when climbing on the scale, may have gained weight. This does not mean that you have gained weight, that is, that you have accumulated fat. On the contrary, you may have burned fat and acquired muscle mass, which also weighs, but is healthy for the body.

Recommendations

Patient has genetic aspects that favor muscle mass gain.

Genes (11 genes and 13 SNPs were analyzed)
ACVR2B, ANOS1, BDNF, CAPN3, DLK1, DMD, GEMIN8, IGFBP3, MTHFR, MTRR, TRIM63

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
TRIM63	rs2275950	AA -	C,G	HIGH
IGFBP3	rs3110697	GG +	A	MEDIUM-HIGH
BDNF	rs6265	GG -	T	LOW

Runner with more endurance than speed

Risk factor
NORMAL

A result in orange or red indicates greater resistance than speed in sports. If shown in green and blue it indicates less resistance and greater speed.

Recommendations

Patient has a tendency to lower resistance and higher speed.

Observations

CC individuals have the best muscle performance, and are more likely to be sprinters. CT individuals, have mixed muscle fibers, and most likely are sprinters as well. TT individuals have worse muscle performance, and are more likely to be endurance athletes.

Genes (1 genes and 1 SNPs were analyzed)
ACTN3

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ACTN3	rs1815739	CT +	T	NORMAL

3. Physical activity

Pain Tolerance

Risk factor

MEDIUM-HIGH

Pain tolerance refers to the maximum amount of pain an individual can endure.

Recommendations

Patient has medium-high pain tolerance.

Genes (2 genes and 4 SNPs were analyzed)

COMT, OPRM1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
OPRM1	rs1799971	GG +	G	HIGH
COMT	rs4818	CC +	G,T	MEDIUM-HIGH
COMT	rs4680	AG +	A	MEDIUM-NORMAL
COMT	rs6269	AG +	G	NORMAL

Improved insulin sensitivity with exercise.

Risk factor

MEDIUM-NORMAL

Orange or red results indicate improved insulin sensitivity with increased physical activity.

Recommendations

Patient has medium sensitivity to insulin with increased physical activity.

Genes (2 genes and 4 SNPs were analyzed)

LIPC, PPM1K

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PPM1K	rs1440581	AG -	A,C	MEDIUM-HIGH
LIPC	rs1800588	CC +	T	MEDIUM-NORMAL
LIPC	rs261332	GG +	G	NORMAL

4. Imbalances and Deficiencies

Deficiency in the Conversion of T4 to T3

Risk factor

HIGH

Indication in orange or red indicates worse conversion to T3, the main active form of thyroid hormones.

Genes (2 genes and 5 SNPs were analyzed)
DIO1, DIO2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
DIO2	rs12885300	CC +	A,G,T	HIGH
DIO2	rs225014	CC +	C	MEDIUM-HIGH
DIO1	rs2235544	AC +	A,T	MEDIUM-HIGH
DIO1	rs11206244	CC +	T	NORMAL

Methylenetetrahydrofolate reductase (MTHFR) deficiency

Risk factor

MEDIUM-NORMAL

MTHFR is a very important enzyme in folate metabolism (part of the Vitamin B group). Its deficiency can cause several clinical conditions, such as homocystinuria. Homocystinuria due to deficiency of methylenetetrahydrofolate reductase (MTHFR) is a metabolic disease characterized by neurological manifestations. MTHFR deficiency results in the accumulation of homocysteine in plasma, urine and tissues. Hyperhomocysteinemia is toxic and can cause cardiovascular problems (infarction, thromboembolism). Characteristics in patients are psychomotor delays, behavioral changes, psychiatric problems and epilepsy.

Recommendations

Patient presents medium-normal tendency to Deficiency of MTHFR.

Genes (1 genes and 5 SNPs were analyzed)
MTHFR

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
MTHFR	rs1801131	AC -	G	MEDIUM-HIGH
MTHFR	rs1476413	AG -	G,T	NORMAL
MTHFR	rs1801133	CC -	A	NORMAL

4. Imbalances and Deficiencies

L-ferritin Deficiency

Risk factor
UNDEFINED

Ferritin is a multimeric protein composed of light (L-ferritin) and heavy (H-ferritin) subunits that bind and store iron inside the cell. A variety of mutations have been reported in the L-ferritin subunit gene (FTL gene) that causes the following five diseases: (1) hereditary hyperferritinemia with cataract syndrome (HHCS), (2) neuroferritinopathy, a subtype of neurodegeneration with iron accumulation cerebral (NBIA), (3) benign hyperferritinemia, (4) L-ferritin deficiency with autosomal dominant inheritance and (5) L-ferritin deficiency with autosomal recessive inheritance. Human L-ferritin deficiency is characterized by generalized idiopathic seizures and atypical restless legs syndrome.

Genes (1 genes and 1 SNPs were analyzed)

FTL

Tendency to Hyperphagia

Risk factor
NORMAL

Leptin is responsible for controlling food intake. The action of leptin in the central nervous system (specifically in the hypothalamus, which controls hunger and satiety), reduces food intake, increases energy expenditure and regulates neuroendocrine function and glucose and fat metabolism. In other words, leptin reduces appetite by informing the brain that energy stores in the form of fat are adequate by inhibiting the formation of appetite-related neuropeptides. Orange or red results indicate a greater tendency to hyperphagia (abnormal increase in appetite or excessive food intake).

Recommendations

Recommend regular practice of physical activity and healthy eating habits.

Genes (1 genes and 1 SNPs were analyzed)

LEPR

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
LEPR	rs1137101	AA +	G	NORMAL

4. Imbalances and Deficiencies

Collagen Degradation

Risk factor

MEDIUM-HIGH

In orange or red it indicates the presence of polymorphisms associated with increased collagen degradation.

Recommendations

Check the polymorphisms associated with inflammation and oxidative stress, and modulate accordingly, as indicated in this exam, since oxidative stress and chronic inflammation are two fundamental triggers that stimulate collagen degradation.

Observations

Healthy lifestyle habits, balanced diet (rich in vitamin C, E and zinc) and regular physical activity help prevent collagen degradation.

Genes (19 genes and 692 SNPs were analyzed)

B4GALT7, CBS, COL11A1, COL11A2, COL17A1, COL1A1, COL1A2, COL27A1, COL2A1, COL3A1, COL4A3, COL4A4, COL4A5, COL4A6, COL5A1, COL5A2, MMP1, MMP3, STXBP5L

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
COL5A1	rs7044529	TT +	T	MEDIUM-HIGH
COL1A1	rs2586488	GG +	G	MEDIUM-HIGH
COL27A1	rs7868992	AA +	A	MEDIUM-HIGH
COL17A1	rs1320448	GG +	G	MEDIUM-HIGH
COL1A1	rs2269336	CC -	A,C	MEDIUM-HIGH

4. Imbalances and Deficiencies

Low Ferritin in Women

Risk factor
NORMAL

Ferritin is a globular protein that is located primarily in the liver. Ferritin is the most important iron reserve protein and is found in all cells, especially those involved in the synthesis of ferric compounds and in iron metabolism and reserve.

Recommendations

Use other markers to check the adequacy of iron, such as transferrin saturation and ferropéxic capacity, if necessary.

Genes (2 genes and 2 SNPs were analyzed)

HFE, TMPRSS6

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
HFE	rs1799945	GG +	G	NORMAL
TMPRSS6	rs4820268	GG +	A	NORMAL

4. Imbalances and Deficiencies

Galactosemia

Risk factor

NORMAL

Life-threatening metabolic disease, beginning in the neonatal period. Babies often develop eating difficulties, lethargy and severe liver disease. The global prevalence is unknown, but the estimated annual incidence is 1 / 40,000 to 1 / 60,000 in Western countries. The disorder appears to be more common in the Caucasian population than in other ethnic groups, but the numbers in other populations may be underestimated. When ingesting breast milk or lactose-containing formula, babies develop feeding problems, failure to thrive and signs of liver damage (jaundice, bleeding tendency, hypoglycemia). In the absence of adequate treatment (galactose restriction), sepsis (E-coli) and neonatal death may occur. Despite adequate treatment, long-term complications appear, including cognitive impairments, motor deficits, ovarian dysfunction with reduced fertility in women and reduced bone density. Male fertility has not been fully studied.

Recommendations

Patient has a low tendency to Galactosemia.

Genes (1 genes and 93 SNPs were analyzed)

GALT

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
GALT	rs111033634	CC +	T	NORMAL
GALT	rs111033645	CC +	T	NORMAL
GALT	rs111033652	CC +	T	NORMAL
GALT	rs111033656	CC +	A	NORMAL
GALT	rs111033658	CC +	T	NORMAL

4. Imbalances and Deficiencies

Insomnia with Caffeine

Risk factor

NORMAL

Caffeine is a substance considered to be psychostimulant. This means that it has properties that stimulate brain activity, increasing the state of wakefulness and alertness and leading to a state of greater agitation, depending on the dose of coffee ingested.

Recommendations

Patient has a low tendency to insomnia with caffeine.

Genes (8 genes and 14 SNPs were analyzed)

ADORA2A, INTERGENIC, KAZN, MTNR1B, MTUS2, NEDD4L, P2RY2, PRIMA1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ADORA2A	rs2236624	CT +	T	MEDIUM-NORMAL
MTNR1B	rs10830964	CC +	T	NORMAL
INTERGENIC	rs11706236	AA +	G	NORMAL
NEDD4L	rs158856	CC +		NORMAL
INTERGENIC	rs16905439	CC +	T	NORMAL

Sodium reduction to control hypertension

Risk factor

MEDIUM-NORMAL

In orange or red indicates that the reduction in sodium intake can help control blood pressure.

Recommendations

Patient tends to benefit from reduced sodium intake to control blood pressure.

Genes (6 genes and 10 SNPs were analyzed)

ACE, AGT, CYP11B2, KL, NAA10, NPPA

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ACE	rs4341	CG +	C	MEDIUM-HIGH
AGT	rs699	CT -	G	MEDIUM-HIGH
NAA10	rs1557501	CT +	T	MEDIUM-HIGH
CYP11B2	rs4545	AG -	T	NORMAL
NPPA	rs5063	GG -	T	NORMAL

4. Imbalances and Deficiencies

Homocysteine Accumulation

Risk factor

MEDIUM-HIGH

The high concentration of homocysteine, hyperhomocysteinemia, is considered a risk factor for cardiovascular and brain pathologies, atherosclerosis, stroke, thrombosis and for neurodegenerative diseases, such as Alzheimer's and Parkinson's, in addition to some types of cancer, depression and osteoporosis, according to some studies.

Recommendations

Tendency to Homocysteine Accumulation. Check, under "Nutrients and Metabolism", whether the need to ingest folate (B9), pyridoxine (B6), riboflavin (B2), cobalamin (B12), choline and betaine are normal or increased, and correct as necessary. Measure the blood level of homocysteine, pyridoxine, folate and B12.

Observations

All treatments for homocysteine accumulation must be carried out by qualified professionals.

Genes (13 genes and 35 SNPs were analyzed)

ADA, CBS, CPS1, CTH, DPEP1, FGF21, GAD1, GPX1, GPX4, HNF1A, MAOA, MTHFR, MTRR

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
MTHFR	rs1801131	AC -	G	MEDIUM-HIGH
MAOA	rs6323	GG +	T	MEDIUM-HIGH
MAOA	rs909525	GG -	T	MEDIUM-HIGH
CTH	rs1021737	GT +	T	MEDIUM-NORMAL
GAD1	rs701492	TT +	T	MEDIUM-NORMAL

4. Imbalances and Deficiencies

Platelet Glycoprotein Deficiency IV

Risk factor

NORMAL

The glycoprotein 'Ib (' GPIb), also known as CD42, is a component of the GPIb-V-IX complex in platelets. The GPIb-V-IX complex binds to von Willebrand factor, leading to platelet adhesion and the formation of a platelet "plug" at the sites of vascular damage. This protein is deficient in Bernard-Soulier syndrome. A gain-in-function mutation leads to the platelet type of von Willebrand disease. Autoantibodies against Ib / IX can be produced in idiopathic thrombocytopenic purpura. Its components include GP1BA and GP1BB. It forms a complex with Glycoprotein IX.

Recommendations

Patient has a low tendency to deficiency of GPIb-V-IX.

Genes (1 genes and 1 SNPs were analyzed)

CD36

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
CD36	rs3173798	TT +	C	NORMAL

ALDH2 Deficiency

Risk factor

LOW

ALDH2 provides information on whether your body may have a greater or lesser ability to break down acetaldehyde, which is a by-product of alcohol that can also be found in the pollution of coffee, tea and air. Aldehyde dehydrogenase enzymes oxidize aldehydes to generate carboxylic acids for use in muscle and heart. Aldehyde dehydrogenase is the second enzyme in the main oxidative pathway of alcohol metabolism. Numerous aldehyde dehydrogenase genes exist, of which ALDH2 is best known for its role in alcohol oxidation.

Recommendations

Patient has a low tendency to ALDH2 Deficiency.

Genes (1 genes and 2 SNPs were analyzed)

ALDH2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ALDH2	rs671	GG +	A	LOW

4. Imbalances and Deficiencies

Elastin Deficiency

Risk factor
NORMAL

It is the protein found in elastic connective tissue and is responsible for the skin's ability to return to its original shape after being stretched or deformed. Elastin gives tissues elasticity and resistance and is also present in tendons, ligaments and arteries. It is related to aging, because after puberty we have difficulty producing (or not producing) elastin.

Recommendations

Patient has a low tendency to Elastin Deficiency.

Genes (1 genes and 56 SNPs were analyzed)

ELN

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ELN	rs727503030	GG +	A	NORMAL
ELN	rs7787362	TT +	C,T	NORMAL
ELN	rs782755390	CC +	A,T	NORMAL
ELN	rs2071307	GG +	A,C	NORMAL
ELN	rs200862792	GG +	A,T	NORMAL

4. Imbalances and Deficiencies

Cholesterol Level (LDL)

Risk factor

MEDIUM-HIGH

Tendency to lower or higher levels of LDL cholesterol (low density lipoprotein). LDL transports cholesterol from the liver to the tissues (cells). When increased, they are related to heart attacks, strokes and other ischemic diseases.

Recommendations

Patient has a tendency of medium-high level of LDL cholesterol. Has a tendency to high level of LDL cholesterol. The practice of regular physical activity, a balanced diet and cholesterol control (total and LDL cholesterol) is of paramount importance.

Genes (26 genes and 33 SNPs were analyzed)

ABCA1, ABCG8, APOB, APOC1, APOC3, APOE, AR, BRCA2, CELSR2, CPS1, CR1L, DNAH11, FABP2, GPX1, HMGCR, HNF1A, LDLR, MAFB, MMAB, MTHFR, MYRF, NAF1, NOS3, PCSK9, SCARB1, SHBG

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
APOE	rs7412	TT +	T	MEDIUM-HIGH
APOC3	rs5128	CG -	G	MEDIUM-HIGH
MYRF	rs174537	GG +	T	MEDIUM-HIGH
APOB	rs515135	GG -	C	MEDIUM-HIGH
CR1L	rs4844614	GT +	T	MEDIUM-NORMAL

4. Imbalances and Deficiencies

Mevalonate Kinase Deficiency (MKD)

Risk factor

NORMAL

Autosomal recessive disorder caused by mutations in the mevalonate kinase (MVK) gene. Due to mutations, the cholesterol biosynthesis pathway is broken and mevalonic acid accumulates. It is characterized by an extension of symptoms with: episodes of recurrent fevers, painful swelling of the lymph nodes, rash, headache, sore throat, oral ulcers, abdominal pain, vomiting, diarrhea, pain and swelling in the joints.

Recommendations

Patient has a low tendency to Mevalonate Kinase Deficiency.

Genes (1 genes and 2 SNPs were analyzed)

MVK

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
MVK	rs104895304	TT +	C	NORMAL

Glucose-6-Phosphate Dehydrogenase Deficiency (G6PD)

Risk factor

HIGH

Hereditary disease usually found in men. A condition that causes red blood cells to rupture in response to certain medications, infections, or other stressors. Symptoms include fever, dark urine, abdominal and back pain, fatigue and pale skin.

Genes (1 genes and 63 SNPs were analyzed)

G6PD

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
G6PD	rs137852318	CC +	A	HIGH
G6PD	rs137852329	GG +	C	HIGH
G6PD	rs137852332	CC +	G,T	HIGH
G6PD	rs137852336	CC +	T	HIGH
G6PD	rs137852337	CC +	G,T	HIGH

4. Imbalances and Deficiencies

Growth Hormone Deficiency (GH)

Risk factor

NORMAL

It is a deficiency of the pituitary hormone most common in children and can be isolated or accompanied by deficiency of other pituitary hormones. It results in abnormally slow growth and short stature with normal proportions.

Recommendations

Patient has a low tendency to Deficiency of Growth Hormone.

Genes (3 genes and 8 SNPs were analyzed)

GHRHR, HESX1, IARS2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
HESX1	rs104893742	GG -	T	NORMAL
GHRHR	rs121918118	TT +	A	NORMAL
IARS2	rs587783070	CC +	T	NORMAL

Cholesterol Level (HDL)

Risk factor

MEDIUM-HIGH

Tendency to have higher or lower levels of HDL cholesterol (high density lipoprotein). HDL transports cholesterol from body tissues to be metabolized in the liver - the so-called reverse cholesterol transport.

Recommendations

Patient has a tendency of medium-high level of HDL cholesterol.

Genes (25 genes and 40 SNPs were analyzed)

ABCA1, ABCG8, APOA1, APOA4, BUD13, CETP, EDN1, FADS2, FTO, HNF4A, IL-6, INTERGENIC, LDLR, LIPC, LIPG, LPL, LTA, NUTF2, PCIF1, PLTP, PPARD, SCARB1, TTC39B, VWF, ZPR1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs3764261	TT -	A	MEDIUM-HIGH
CETP	rs5882	AG +	A	LOW
LDLR	rs6511720	GG +	T	LOW
CETP	rs708272	CT -	A	MEDIUM-HIGH
CETP	rs1864163	GG +	A	MEDIUM-HIGH

4. Imbalances and Deficiencies

Tendency to Hypertriglyceridemia

Risk factor

MEDIUM-HIGH

Triglycerides (Triacylglycerol) are the main fats in our body, they serve as an energy reserve, but when they are in non-normal values they can bring serious complications.

Recommendations

Shows medium-high tendency to hypertriglyceridemia. Ordering a complete lipidogram and regular physical activity and a balanced diet is extremely important.

Genes (33 genes and 40 SNPs were analyzed)

ABCG8, APOA5, APOB, APOE, BUD13, CILP2, DOCK7, FADS1, FADS2, FTO, GCKR, HMGCR, INTERGENIC, JMJD1C, LDLR, LEPR, LIPC, LPL, LYPLAL1, MLXIPL, OR4A46P, PCIF1, PCSK9, PHYHIP, PPARG, RAB11B, SHBG, SUGP1, TBL2, TMEM241, TRIB1, XKR6, ZPR1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
APOE	rs7412	TT +	T	MEDIUM-HIGH
LPL	rs320	GT +	G	LOW
LYPLAL1	rs2605100	GG +	G	MEDIUM-HIGH
CILP2	rs16996148	GT +	T	MEDIUM-HIGH
GCKR	rs780094	AG -	C	MEDIUM-NORMAL

4. Imbalances and Deficiencies

Response to Antidepressants

Risk factor

MEDIUM-HIGH

Some people have better or worse responses to treatment with antidepressants. Orange or red results indicate better response to treatment with antidepressants.

Recommendations

Medium-high tendency to benefit from treatment with antidepressants.

Observations

Make the rational use of antidepressants and always with the guidance of a professional.

Genes (3 genes and 5 SNPs were analyzed)

ABCB1, GSK3B, HTR2A

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
GSK3B	rs334558	AA +	A	HIGH
HTR2A	rs6311	CT +	C	LOW
ABCB1	rs2032583	TT -	G	MEDIUM-HIGH
ABCB1	rs1128503	CT -	G	NORMAL
ABCB1	rs3213619	TT -	G	NORMAL

4. Imbalances and Deficiencies

Autophagy

Risk factor

NORMAL

Autophagy is a self-digesting mechanism responsible for removal of damaged organelles, malformed proteins during biosynthesis, and nonfunctional long-lived proteins by lysosome.

Recommendations

Normal autophagy process.

Observations

Normal autophagy process.

Genes (1 genes and 1 SNPs were analyzed)

ATG16L1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ATG16L1	rs2241880	CT -	G	NORMAL

4. Imbalances and Deficiencies

Hereditary Fructose Intolerance

Risk factor

HIGH

Hereditary fructose intolerance is a condition that affects a person's ability to digest sugary fructose. Fructose is a simple sugar found mainly in fruits. Affected individuals develop signs and symptoms of the disorder in childhood, when fruits, juices or other foods containing fructose are introduced into the diet. After ingesting fructose, individuals with hereditary fructose intolerance may experience nausea, bloating, abdominal pain, diarrhea, vomiting and low blood sugar (hypoglycemia). Affected babies may be unable to grow and gain weight at the expected rate (failure to thrive). Repeated intake of fructose-containing foods can lead to liver and kidney damage. Liver damage can result in yellowing of the skin and whites of the eyes (jaundice), enlarged liver (hepatomegaly) and chronic liver disease (cirrhosis). Continuous exposure to fructose can result in seizures, coma, and ultimately death from liver and kidney failure. Due to the severity of the symptoms experienced when fructose is ingested, most people with hereditary fructose intolerance develop an aversion to fruits, juices and other foods that contain fructose. Hereditary fructose intolerance should not be confused with a condition called fructose malabsorption. In people with fructose malabsorption, the intestinal cells are unable to absorb fructose normally, leading to bloating, diarrhea or constipation, flatulence and stomach pain. Fructose malabsorption is thought to affect approximately 40% of individuals in the western hemisphere; its cause is unknown. Due to the severity of the symptoms experienced when fructose is ingested, most people with hereditary fructose intolerance develop an aversion to fruits, juices and other foods that contain fructose. Hereditary fructose intolerance should not be confused with a condition called fructose malabsorption. In people c

Genes (1 genes and 14 SNPs were analyzed)
ALDOB

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ALDOB	rs1800546	CC +	C	HIGH
ALDOB	rs41281039	TT +	T	HIGH
ALDOB	rs78340951	GG +	G	HIGH
ALDOB	rs3739721	CC +	C	MEDIUM-HIGH
ALDOB	rs145078268	CC +	G,T	NORMAL

5. Intolerances and Dysfunctions

Hypercholesterolemia (Type B)

Risk factor

NORMAL

Increased concentration of cholesterol in the blood. It is a form of hyperlipidemia (high concentration of blood lipids) and hyperlipoproteinemia (high concentration of lipoproteins in the blood).

Recommendations

Patient has no tendency to hypercholesterolemia.

Genes (3 genes and 7 SNPs were analyzed)

APOB, INSIG2, LDLR

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
APOB	rs12713559	CC -	A	NORMAL
LDLR	rs28941776	GG +	A,T	NORMAL
LDLR	rs28942081	GG +	A,T	NORMAL
LDLR	rs28942082	GG +	A,C,T	NORMAL
APOB	rs5742904	GG -	A,T	NORMAL

Hereditary Familial Hypercholesterolemia

Risk factor

MEDIUM-NORMAL

Metabolic disorder of autosomal dominant inheritance that results in elevation of the level of bad cholesterol (LDL) in the blood.

Recommendations

If necessary, request a complete lipidogram examination.

Genes (6 genes and 17 SNPs were analyzed)

ABCA1, APOB, APOC3, LDLR, LDLRAP1, PCSK9

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PCSK9	rs11591147	GG +	A,T	MEDIUM-HIGH
APOC3	rs5128	CG -	G	MEDIUM-NORMAL
PCSK9	rs562556	AA +	A	MEDIUM-NORMAL
APOB	rs1042031	GG -	A,T	NORMAL
APOB	rs1042034	AG -	T	NORMAL

5. Intolerances and Dysfunctions

Hyperparathyroidism

Risk factor
MEDIUM-NORMAL

Tendency to excessive production of parathyroid hormone.

Recommendations

If necessary, request a PTH test (parathormone).

Genes (5 genes and 5 SNPs were analyzed)
CASR, CDC73, GPR19, MEN1, PTH

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PTH	rs6256	AC -	A,T	MEDIUM-HIGH
CASR	rs28936684	GG +	A,T	NORMAL
MEN1	rs2959656	GG -	A	NORMAL

Hypothyroidism (Goiter)

Risk factor
NORMAL

Goiter is an enlargement of the thyroid gland usually caused by a lack of iodine.

Recommendations

Patient has no tendency to Hypothyroidism.

Genes (1 genes and 1 SNPs were analyzed)
TG

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
TG	rs2069556	AG +	G	NORMAL

5. Intolerances and Dysfunctions

Type 1 Diabetes

Risk factor

MEDIUM-HIGH

Genetic risk of developing type I, autoimmune diabetes.

Recommendations

Check for signs and symptoms: dry mouth, thirst, urinating frequently, tiredness and blurred vision. And if necessary, measure blood glucose, especially postmeal plasma glucose (2h after a meal). Maintain a balanced diet rich in vegetables, whole grains (Quinoa, chia, flaxseed), legumes and cinnamon. Regular physical activity is also of paramount importance.

Genes (20 genes and 43 SNPs were analyzed)

CBLB, CLEC16A, CTLA4, ERBB3, HCG17, HLA-DQA1, HLA-DQB1, IFIH1, IGF2, IL-2RA, IL-7R, INS, INTERGENIC, NAA25, PHTF1, PTPN2, PTPN22, SH2B3, TLR2, UBQLN1P

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
HLA-DQA1	rs9272346	AA +	A,C,T	HIGH
PTPN2	rs1893217	CC -	G	MEDIUM-HIGH
PTPN2	rs2542151	GG +	T	MEDIUM-HIGH
HLA-DQB1	rs7454108	CC +	C	MEDIUM-HIGH
CTLA4	rs231775	AG +	G	MEDIUM-NORMAL

5. Intolerances and Dysfunctions

Type 2 Diabetes

Risk factor

MEDIUM-HIGH

Type 2 diabetes is a chronic disease that affects how the body metabolizes glucose, the body's main source of energy. The person with type 2 diabetes may have resistance to the effects of insulin - a hormone that regulates the entry of sugar into cells - or does not produce enough insulin to maintain a normal glucose level. Result and orange or red indicate higher risk of type 2 diabetes.

Recommendations

Check for signs and symptoms: dry mouth, thirst, urinating frequently, tiredness and blurred vision. And if necessary, measure blood glucose, especially postmeal plasma glucose (2h after a meal). Maintain a balanced diet rich in vegetables, whole grains (Quinoa, chia, flaxseed), legumes and cinnamon. The practice of regular physical activity is of paramount importance.

Genes (44 genes and 69 SNPs were analyzed)

ADCY5, ADIPOQ, ADRA2A, ADRB2, AKT1, CAPN10, CDKAL1, CDKN2A, CDKN2A/B, CDKN2B-AS1, ENPP1, ESR1, FAM58A, FTO, GAD1, GCK, GCKR, GPX1, HHEX, HNF1B, IGF2BP2, INSIG2, IRS1, JAZF1, KCNJ11, KCNQ1, LEPR, MTNR1B, NAF1, NOTCH2, PAX4, PEX5L, PPARG, PTPRD, PTPRS, RPSAP52, SDHAF4, SLC2A14, SLC2A4, SLC30A8, TCF2, TCF7L2, THADA, UBE2E2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
SLC30A8	rs13266634	CC +	A,T	HIGH
CDKN2A	rs10811661	TT +	T	MEDIUM-HIGH
ENPP1	rs1044498	AC +	C	MEDIUM-HIGH
CDKAL1	rs7756992	AG +	G,T	MEDIUM-HIGH
KCNQ1	rs2237892	CC +	T	MEDIUM-HIGH

5. Intolerances and Dysfunctions

Early Type 2 Diabetes

Risk factor

NORMAL

Genetic predisposition to non-autoimmune diabetes, but onset in younger individuals. Orange or red results indicate greater tendency to early type 2 diabetes.

Recommendations

Maintain a balanced diet along with regular physical activity.

Genes (5 genes and 10 SNPs were analyzed)

GCK, HNF1A, IL-6, KCNJ11, PAX4

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
IL-6	rs1800795	CG +	G	MEDIUM-NORMAL
GCK	rs104894005	GG -	A,G,T	NORMAL
PAX4	rs2233580	GG -	T	NORMAL

Lower Bone Mineral Density

Risk factor

MEDIUM-NORMAL

Genetic risk of having a lower bone density.

Recommendations

The practice of regular physical activity is of paramount importance, especially hangman exercises (hypertrophy).

Genes (18 genes and 24 SNPs were analyzed)

ADAMTS18, C7ORF76, CALCR, CCDC170, CLDN14, COL1A1, COLEC10, CPED1, CYP24A1, ESR1, IDUA, LEKR1, LOC100133286, MEF2C, QPCT, SHBG, WNT16, ZBTB40

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
WNT16	rs2707466	GG -	G,T	LOW
COL1A1	rs1800012	GT -	A	LOW
SHBG	rs1799941	GG +	A	MEDIUM-HIGH
CYP24A1	rs1570669	AG +	G	MEDIUM-HIGH
ESR1	rs2234693	CT +	A,T	MEDIUM-NORMAL

5. Intolerances and Dysfunctions

Cow's Milk Allergy

Risk factor

MEDIUM-HIGH

Tendency to hypersensitivity to cow's milk proteins.

Recommendations

Check the signs and symptoms: digestive problems, vomiting, reflux, inflammation of the esophagus, urticaria. The main treatment is to avoid milk and dairy products, but several everyday objects contain traces of milk proteins, such as school chalk, party balloons and some soaps.

Genes (7 genes and 10 SNPs were analyzed)

FAM117A, IL-10, IMPAD1, INTERGENIC, STAT6, TLR6, TMEM26

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs17616434	CC +	C	MEDIUM-HIGH
STAT6	rs1059513	AA -	T	NORMAL
IL-10	rs1518111	AG -	C	NORMAL
IL-10	rs1800871	CT -	G	NORMAL
FAM117A	rs9898058	CC +	T	NORMAL

5. Intolerances and Dysfunctions

Allergy to Egg White

Risk factor

MEDIUM-NORMAL

Egg allergy happens when the immune system identifies the egg white proteins as a foreign body, triggering an allergic reaction. Egg white (white part) contains more egg protein and is therefore more allergenic than egg yolk (yellow part). It is quite common in pediatric age, reaching 3% of the population in the first years of life.

Recommendations

Patient has a medium tendency to allergy to egg whites. Check for signs and symptoms: local urticaria (spots on the skin) (peroral if swallowed or other contact) or red spots that are generalized on the body and may be accompanied by edema. If necessary, restrict consumption and physical contact with egg products and derivatives.

Observations

Shows a moderate tendency for egg white allergy.

Genes (5 genes and 7 SNPs were analyzed)

ABCB11, COG7, ERCC4, INTERGENIC, ITIH6

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ERCC4	rs1800067	AG +	A	MEDIUM-HIGH
ABCB11	rs16823014	AG +	A	MEDIUM-NORMAL
ABCB11	rs497692	AG -	C	NORMAL
COG7	rs797044712	-- -		NORMAL
ABCB11	rs2287622	GT -	C,G,T	NORMAL

5. Intolerances and Dysfunctions

Ulcerative Colitis

Risk factor

MEDIUM-HIGH

Chronic inflammatory bowel disease that affects the colon. Orange or red indicates a higher risk of developing the disease.

Recommendations

Shows a tendency to Ulcerative Colitis. Check for signs and symptoms: diarrhea with colic, blood and mucus in the stool. Usually after meals, the evacuation reflex can be intense. If necessary, perform endoscopy for diagnosis. Increase the consumption of anti-inflammatory foods and apple, kale and beet juice is also indicated.

Genes (23 genes and 47 SNPs were analyzed)

ABCB1, CD226, CFB, ECM1, GPR35, IL-10, IL-10RA, IL-10RB, IL-1B, IL-1RN, IL-23R, IL-7R, IRF5, KIAA1109, MMEL1, NR5A2, PLCL1, PROCR, PTPN2, PTPRS, RUNX3, SLC2A14, TCF4

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
KIAA1109	rs13119723	GG +	G	HIGH
NR5A2	rs3790844	CT -	C,G	LOW
IL-1B	rs1143634	CT -	A	MEDIUM-HIGH
ABCB1	rs10248420	AA +	G,T	MEDIUM-HIGH
IRF5	rs10488631	CT +	C	MEDIUM-HIGH

5. Intolerances and Dysfunctions

Stroke

Risk factor
HIGH

Stroke occurs when vessels that carry blood to the brain clog or rupture, causing paralysis of the brain area that has run out of blood circulation. It is a disease that affects men more and is a major cause of death, disability and hospitalizations worldwide. The faster the stroke diagnosis and treatment, the greater the chances of complete recovery. Thus, it is essential to be aware of signs and symptoms and seek immediate medical attention. There are two types of strokes, which occur for different reasons: hemorrhagic stroke and ischemic stroke.

Genes (32 genes and 42 SNPs were analyzed)

ABCG2, ADAMTS12, ADD1, ADIPOQ, AOC1, APOE, APOE4, CBS, CPS1, CYP51A1, F5, GAD1, HABP2, HDAC9, ICAM1, INTERGENIC, MTRR, NAA25, NINJ2, PARK7, PDE4D, PITX2, PRKCH, PROC, SERPINI1, SHISA6, SPSB4, TRIM29, TWIST1, VCAN, WDR12, ZFHX3

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs10757278	GG +	G	HIGH
APOE	rs7412	TT +	T	MEDIUM-HIGH
PITX2	rs2200733	CT +	T	MEDIUM-HIGH
ADAMTS12	rs1364044	TT +	A,T	MEDIUM-HIGH
HDAC9	rs2073963	GT +	G	MEDIUM-HIGH

Acute Myocardial Infarction

Risk factor
HIGH

Blocking blood flow to the heart muscle.

Genes (23 genes and 32 SNPs were analyzed)

ADRB2, APOA5, BRAP, CDKN2B-AS1, CETP, CYP11B2, F12, F13A1, F7, FLJ25967, GJA4, IL-4, INTERGENIC, ITGB3, LRP8, MMP3, MMP9, OLR1, PSMA6, PSRC1, SH2B3, TLR4, TNFSF4

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs10757278	GG +	G	HIGH
INTERGENIC	rs1333049	CC +	C	HIGH
CDKN2B-AS1	rs10116277	TT +	T	LOW
LRP8	rs5174	GG -	T	LOW
INTERGENIC	rs2383207	GG +	G	MEDIUM-HIGH

5. Intolerances and Dysfunctions

Acute Myocardial Infarction (early)

Risk factor

MEDIUM-NORMAL

Blocking blood flow to the heart muscle that happens early.

Recommendations

The practice of regular physical activity, a balanced diet and the control of cholesterol (total cholesterol and LDL) is extremely important.

Genes (5 genes and 5 SNPs were analyzed)

CELSR2, INTERGENIC, MIA3, PCSK9, WDR12

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs1746048	CT +	T	LOW
CELSR2	rs646776	AA -	T	MEDIUM-HIGH
MIA3	rs17465637	AC +	C,G,T	MEDIUM-NORMAL
WDR12	rs6725887	TT +	C	NORMAL

Cardiac Insufficiency

Risk factor

MEDIUM-NORMAL

Chronic disease in which the heart does not pump blood as it should.

Recommendations

Check for signs and symptoms: shortness of breath, fatigue, swollen legs and fast heartbeat. Maintain healthy lifestyle habits.

Genes (1 genes and 1 SNPs were analyzed)

ADRB1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ADRB1	rs1801253	CC +	C	MEDIUM-NORMAL

5. Intolerances and Dysfunctions

Anorexia Nervosa

Risk factor
NORMAL

Eating disorder that causes the individual to have a distorted view of their body, leading to an obsession with losing weight.

Recommendations

Patient has no tendency to Anorexia Nervosa.

Genes (5 genes and 5 SNPs were analyzed)
C10ORF11, DCTN6, FAAH, GHRL, PPP3CA

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PPP3CA	rs2659546	GG -	T	NORMAL
FAAH	rs324420	AC +	A	NORMAL

Lactose Intolerance

Risk factor
LOW

Lactose intolerance is the inability to digest lactose (milk sugar). The problem results from a deficiency or absence of an intestinal enzyme called lactase. This enzyme makes it possible to break down milk sugar into simpler carbohydrates for better absorption.

Recommendations

Avoid excessive consumption of dairy products.

Genes (2 genes and 20 SNPs were analyzed)
LCT, MCM6

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
MCM6	rs182549	TT +	T	LOW
MCM6	rs4988235	AG +	A	NORMAL
MCM6	rs145946881	CC +	G	NORMAL
MCM6	rs41380347	AA +	C	NORMAL
MCM6	rs41525747	GG +	C	NORMAL

5. Intolerances and Dysfunctions

Gluten Intolerance

Risk factor

MEDIUM-HIGH

Intolerance to non-celiac gluten is the inability or difficulty in digesting gluten, which is a protein present in wheat, rye and barley. In these people, gluten damages the walls of the small intestine, causing diarrhea, abdominal pain and swelling, in addition to hindering the absorption of nutrients. In celiac disease, there is also an intolerance to gluten, but there is a reaction of the immune system causing a more severe condition, with inflammation, severe pain and frequent diarrhea.

Recommendations

Patient has a medium-high tendency towards gluten intolerance. It is advisable to carry out a complete elimination and reintroduction diet, guided by a professional, or, at least, the elimination of food containing gluten, for a minimum period of 45 days.

Observations

Foods that contain gluten: Bread, toast, biscuits, biscuits, pasta, cakes, beer, pizza, snacks, hot dogs, hamburgers; Wheat germ, wheat, among others. Carefully observe the food labels.

Genes (4 genes and 6 SNPs were analyzed)

HLA, HLA-DQB1, IL-18RAP, KIAA1109

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
KIAA1109	rs13119723	GG +	G	HIGH
KIAA1109	rs6822844	GT +	T	MEDIUM-HIGH
IL-18RAP	rs917997	AG -	A,C	MEDIUM-NORMAL
HLA-DQB1	rs7775228	TT +	C	NORMAL

5. Intolerances and Dysfunctions

Colorectal Neoplasia (Meat Consumption)

Risk factor

NORMAL

The consumption of red meat in excess can be a risk factor for colorectal cancer, especially in individuals with these polymorphisms, if indicated in orange or red.

Recommendations

Beware of overeating red meats.

Observations

It is noteworthy that neoplasms are multifactorial, and here only a genetic tendency is observed. Any and all treatments must be carried out by qualified professionals.

Genes (3 genes and 9 SNPs were analyzed)

GATA3, MLH1, NAT2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
GATA3	rs4143094	GG +	G	LOW
NAT2	rs1208	GG +	G	MEDIUM-NORMAL
NAT2	rs1801280	CC +	C	MEDIUM-NORMAL
NAT2	rs1041983	CC +	T	NORMAL
NAT2	rs1799929	CT +	T	NORMAL

5. Intolerances and Dysfunctions

Irritable Bowel Syndrome

Risk factor

NORMAL

Group of symptoms, including abdominal pain and changes in the pattern of bowel movements, without any evidence of underlying injuries.

Recommendations

Patient has a low tendency to Irritable Bowel Syndrome.

Genes (5 genes and 7 SNPs were analyzed)

CNR1, CRHR1, HTR3E, TNF, TNFSF15

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
TNFSF15	rs4263839	AG +	G	NORMAL
CNR1	rs806378	AG -	T	NORMAL
TNF	rs1800629	GG +	A	NORMAL

5. Intolerances and Dysfunctions

Metabolic Syndrome

Risk factor

MEDIUM-HIGH

Metabolic syndrome is based on insulin resistance, which is a process that happens due to weight gain, but can also start with type 2 diabetes. The most common cause is weight gain, which leads to increased blood pressure, the development of type 2 diabetes and changes in triglycerides and cholesterol.

Recommendations

Patient has a medium-high tendency to metabolic syndrome. Watch for symptoms. Regular physical activity - about 150 minutes a week - is essential to maintain weight, control blood pressure and cholesterol.

Observations

It is noteworthy that the metabolic syndrome is multifactorial, and here only the genetic tendency is observed.

Genes (11 genes and 14 SNPs were analyzed)

ADRB2, APOB, CD36, CYP27A1, CYP2C19, FTO, GHRL, LEPR, MC4R, MTTP, NOS3

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
APOB	rs512535	GG -	C	HIGH
ADRB2	rs1042713	GG +	A	MEDIUM-HIGH
MC4R	rs2229616	GG -	C	NORMAL
FTO	rs8050136	CC +	A	NORMAL
NOS3	rs1799983	GG +	T	NORMAL

5. Intolerances and Dysfunctions

Gestational Diabetes

Risk factor

NORMAL

Result in orange or red indicates greater tendency towards Gestational Diabetes.

Recommendations

Patient has a low tendency towards Gestational Diabetes.

Genes (4 genes and 4 SNPs were analyzed)

ENPP1, INTERGENIC, SRR, TCF7L2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
TCF7L2	rs7903146	CC +	G,T	NORMAL
INTERGENIC	rs7923837	AA +	A,T	NORMAL
SRR	rs391300	GG -	T	NORMAL

Crohn's Disease

Risk factor

MEDIUM-HIGH

Crohn's disease is an inflammatory disease of the gastrointestinal tract. The affected regions are predominantly the lower part of the small intestine (ileum) and large intestine (colon), but it can affect any part of the gastrointestinal tract.

Recommendations

Patient has medium-high tendency to Crohn's disease. Check for signs and symptoms (abdominal pain, diarrhea, weight loss, anemia and fatigue). Avoid foods with lactose, sucrose, gluten, excessive intake of red meat, alcohol consumption, increase the consumption of fruits and vegetables.

Genes (32 genes and 58 SNPs were analyzed)

ABCB1, AOC1, ATG16L1, BSN, C21ORF33, C5ORF56, CDH1, CDKAL1, DEFB1, FGFR1OP, FUT2, IBD5, IL-10, IL-23R, INTERGENIC, IRGM, JAZF1, KIAA1109, KIF21B, LACC1, LINC00824, MST, NELL1, NKX2-3, NOD2, PTPN2, SBNO2, SLC22A4, TCF7L2, TNF, XBP1, ZNF365

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
KIAA1109	rs6822844	GT +	T	MEDIUM-HIGH
TCF7L2	rs3814570	CC +	T	LOW
PTPN2	rs1893217	CC -	G	MEDIUM-HIGH
PTPN2	rs2542151	GG +	T	MEDIUM-HIGH
INTERGENIC	rs9286879	GG +	G	MEDIUM-HIGH

5. Intolerances and Dysfunctions

Gastroesophageal Reflux Disease (GERD)

Risk factor

NORMAL

Gastroesophageal reflux disease (GERD) is a digestive disease in which stomach acid or bile returns through the esophagus, causing irritation in the mucosa of the alimentary tube.

Recommendations

Patient has a low tendency to Gastroesophageal Reflux Disease.

Genes (1 genes and 5 SNPs were analyzed)

CYP2C19

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
CYP2C19	rs12248560	CC +	A,T	NORMAL
CYP2C19	rs55640102	AA +	C,T	NORMAL
CYP2C19	rs72552267	GG +	A	NORMAL
CYP2C19	rs72558186	TT +	A,C	NORMAL

5. Intolerances and Dysfunctions

Inflammatory Bowel Disease (IBD)

Risk factor

MEDIUM-HIGH

Inflammatory Bowel Diseases (IBD) are chronic inflammatory diseases that affect the intestine with varying intensities. The main ones are Crohn's disease, ulcerative colitis and indeterminate colitis. Usually affecting young individuals between 30 and 40 years old.

Recommendations

Patient presents medium-high tendency to Inflammatory Bowel Diseases. Check for signs and symptoms (abdominal pain, changes in bowel habits, diarrhea or even bleeding, weight loss, weakness in more severe cases). Indicated anti-inflammatory diet; avoid gluten; milk and dairy products. Think of Supplements as: Vitamin A; D; C; Quercetin; prebiotics; probiotics; omega 3 and turmeric.

Observations

All treatments for Inflammatory Bowel Disease (IBD) must be carried out by qualified professionals.

Genes (14 genes and 18 SNPs were analyzed)

C5ORF56, CARD9, ERAP1, HLA-DQA1, IFNG, IL-10RA, IL-10RB, IL-12B, IL-1B, INTERGENIC, NOD2, PLAU, STAT3, TNFSF15

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
IL-12B	rs10045431	CC +	C	HIGH
IL-1B	rs1143634	CT -	A	MEDIUM-HIGH
IL-10RB	rs2834167	AA +	G	MEDIUM-HIGH
HLA-DQA1	rs6927022	GG +	G	MEDIUM-HIGH
INTERGENIC	rs9286879	GG +	G	MEDIUM-HIGH

5. Intolerances and Dysfunctions

Chronic Kidney Disease (CKD)

Risk factor

MEDIUM-NORMAL

Chronic Kidney Disease (CKD) is a slow and progressive disease of decreased ability to filter metabolic compounds by the kidneys, which leads to kidney failure. It is associated with diabetes and hypertension.

Recommendations

Patient presents medium-high tendency to CKD. Check kidney function.

Genes (6 genes and 8 SNPs were analyzed)

INTERGENIC, MTHFS, SHROOM3, SLC13A3, SPATA5L1, UMOD

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
UMOD	rs4293393	TT -	G	MEDIUM-HIGH
SPATA5L1	rs2467853	GT +	A,G	NORMAL
UMOD	rs12917707	GG +	T	NORMAL
INTERGENIC	rs13070584	CC +	T	NORMAL
SHROOM3	rs17319721	GG +	A	NORMAL

Autoimmune Thyroid Disease (DTA)

Risk factor

MEDIUM-NORMAL

Predisposition to autoimmune thyroid disease, either Graves' disease or Hashimoto.

Recommendations

Patient has a medium tendency to DTA. Check for signs and symptoms.

Genes (26 genes and 33 SNPs were analyzed)

ABO, CTLA4, DIO1, FAM227B, GLIS3, INSR, INTERGENIC, LHX3, LINC00609, LINC01512, LOC101928278, LOC105371356, LOC105376817, LOC107986195, LOC107986598, LPCAT2, MTNR1A, MTNR1B, NFIA, NRG1, PDE10A, PDE8B, PRDM11, RP11, SASH1, TG

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
MTNR1B	rs1387153	CC +	C,T	MEDIUM-HIGH
DIO1	rs2235544	AC +	A,T	MEDIUM-HIGH
CTLA4	rs231775	AG +	G	MEDIUM-NORMAL
PDE8B	rs6885099	AG +	G	NORMAL
FAM227B	rs10519227	AT +	A	NORMAL

5. Intolerances and Dysfunctions

Cystic Fibrosis (CF)

Risk factor

NORMAL

Cystic fibrosis (CF), or mucoviscidosis, is an inherited disease characterized by the accumulation of thick, sticky mucus that can damage many of the body's organs. The most common signs and symptoms of the disorder include progressive damage to the respiratory system and chronic problems of the digestive system. The characteristics of the disorder and its severity vary among the affected individuals. In people with cystic fibrosis, the body produces abnormally thick and sticky mucus. This abnormal mucus can clog the airways, leading to serious breathing problems and bacterial infections in the lungs. These infections cause chronic cough, wheezing and inflammation. Most people with cystic fibrosis also have digestive problems. Some affected babies have meconium ileus, a blockage of the intestine that occurs shortly after birth. Other digestive problems result from an accumulation of thick, sticky mucus in the pancreas. In people with cystic fibrosis, mucus often damages the pancreas, impairing its ability to produce insulin and digestive enzymes. Problems with digestion can lead to diarrhea, malnutrition, poor growth and weight loss.

Recommendations

Patient has a low tendency to Cystic Fibrosis.

Genes (3 genes and 13 SNPs were analyzed)

ADRA2A, CFTR, SCNN1A

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
CFTR	rs11971167	GG +	A	NORMAL
CFTR	rs1800098	GG +	C	NORMAL
CFTR	rs213950	GG +	A	NORMAL
CFTR	rs35516286	TT +	C	NORMAL
CFTR	rs75961395	GG +	A	NORMAL

5. Intolerances and Dysfunctions

Hemochromatosis

Risk factor

MEDIUM-HIGH

Hemochromatosis is a disease in which iron deposits in the tissues due to its excess in the body. The main deposit sites are the liver, pancreas, heart and pituitary. Excess iron in these organs progressively damages cells and impairs their function. For the diagnosis of hemacromatosis, in addition to medical history and thorough physical examination, a direct and indirect global assessment of iron stores and metabolism, as well as biopsy analysis of the injured tissue, must be performed. The tests to be done will depend on the cause. But in general, the doctor should assess iron metabolism, such as ferritin, in addition to tests that determine the function of the injured tissue. Hemochromatosis treatment consists of decreasing the amount of iron in the body by drawing blood.

Recommendations

Patient presents medium-high tendency to Hemochromatosis. Check for signs and symptoms (Symptoms: Joint pain, Fatigue, Abdominal pain, Erectile dysfunction, Amenorrhea, Depression, Hair loss, Unintentional weight loss, Diabetes, Arrhythmias, Psychiatric outbreaks, Neurological problems, Irregular skin color).

Genes (7 genes and 25 SNPs were analyzed)

FTH1, HAMP, HFE, HJV, SLC40A1, TFR2, TMPRSS6

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
HFE	rs1799945	GG +	G	HIGH
HFE	rs6918586	CC +	C	MEDIUM-HIGH
HAMP	rs10421768	AA +	G	NORMAL
HFE	rs146519482	GG +	C,T	NORMAL
HFE	rs1800562	GG +	A	NORMAL

5. Intolerances and Dysfunctions

Histamine Intolerance

Risk factor

NORMAL

Histamine intolerance is associated with an excess of histamine due to impaired function of the enzyme diamine oxidase (DAO), which degrades histamine. Histamine is a biogenic amine, vasodilator, involved in biochemical processes of immune response of our body.

Recommendations

Patient has a low tendency to Histamine Intolerance.

Genes (5 genes and 30 SNPs were analyzed)

AOC1, DAO, GAD1, HNMT, SLC2A14

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
HNMT	rs1580111	TT +	T	MEDIUM-NORMAL
HNMT	rs1050891	CT -	G	NORMAL
HNMT	rs1455158	CT +	T	NORMAL
DAO	rs2052129	CC -	T	NORMAL
HNMT	rs3828168	CT +	T	NORMAL

Allergy to Nuts

Risk factor

UNDEFINED

Along with peanuts and shellfish, nuts and chestnuts are one of the food allergens most often linked to anaphylaxis (severe and rapidly progressing allergic reaction that can lead to death).

Genes (1 genes and 2 SNPs were analyzed)

STAT6

5. Intolerances and Dysfunctions

Glutaric Aciduria Type I (AG1)

Risk factor

MEDIUM-NORMAL

Glutaric aciduria type I (AG1) is a disease of protein metabolism that causes the accumulation in urine, plasma and tissues of some toxic products: glutaric acid and its derivatives. It has autosomal recessive transmission and nutritional treatment should be instituted as soon as possible.

Recommendations

Patient has a medium tendency to Glutaric Aciduria type I.

Observations

All treatments for Glutaric Aciduria Type I (AG1) must be carried out by qualified professionals.

Genes (2 genes and 5 SNPs were analyzed)

GCDH, HDB

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
GCDH	rs9384	GT +	T	MEDIUM-HIGH
GCDH	rs121434367	CC +	T	NORMAL
GCDH	rs121434369	CC +	T	NORMAL
GCDH	rs8012	GG +	A	NORMAL

5. Intolerances and Dysfunctions

Renal Tubular Acidosis (ATR)

Risk factor

NORMAL

It consists of acidosis and electrolyte disturbances resulting from impaired hydrogen ion excretion (type 1), impaired bicarbonate reabsorption (type 2), or abnormal aldosterone production or response (type 4). In renal tubular acidosis, malfunctioning of the renal tubules, resulting in excessive levels of acid in the blood.

Recommendations

Patient has a low tendency to Renal Tubular Acidosis.

Genes (2 genes and 15 SNPs were analyzed)

ATP6V0A4, SLC4A1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ATP6V0A4	rs3807153	CT -	G	LOW
SLC4A1	rs2072081	CC -	T	NORMAL
ATP6V0A4	rs121908368	CC -	T	NORMAL
ATP6V0A4	rs267606671	GG -	A	NORMAL
ATP6V0A4	rs28939081	GG -	A	NORMAL

5. Intolerances and Dysfunctions

Abetalipoproteinemia (Bassen-Kornzweig syndrome)

Risk factor

NORMAL

Bassen-Kornzweig syndrome, also called abetalipoproteinemia, is an inherited disorder of lipid metabolism, autosomal recessive, in which there is a defect (s) in the microsomal protein molecule of triglyceride transfer (calms the transport of triglycerides, cholesterol esters and phospholipids from phospholipid surfaces), causing the absence of apolipoproteins B in plasma and plasma lipoproteins containing apoB. It affects both sexes, male predominance (70% of cases).

Recommendations

Patient has a low tendency to Bassen-Kornzweig syndrome.

Genes (1 genes and 16 SNPs were analyzed)

MTTP

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
MTTP	rs146064714	GG +	T	NORMAL
MTTP	rs1800591	TT +		NORMAL
MTTP	rs199422220	GG +	A	NORMAL

Reduction in Factor XII Activity (Coagulation)

Risk factor

MEDIUM-NORMAL

Reduction in Factor XII Activity (Hageman factor). It is an inherited disorder that causes prolonged blood clotting.

Recommendations

Patient has a medium tendency to Hageman's factor.

Genes (1 genes and 2 SNPs were analyzed)

F12

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
F12	rs1801020	CT -	G	MEDIUM-NORMAL

5. Intolerances and Dysfunctions

Attention Deficit Disorder with Food Dyes

Risk factor

MEDIUM-NORMAL

Attention deficit hyperactivity disorder (ADHD) has no known cause yet. However, studies suggest that the increase in consumption of industrialized foods, rich in food additives and food colors, alters children's behavior.

Recommendations

Patient has a medium tendency to ADHD with consumption of food dyes. Avoid excessive consumption of processed foods.

Observations

In this exam, only the genetic tendency is observed, and specifically due to the technique used in this exam, different techniques may occasionally observe different alterations, due to the limitations of each sequencing technique.

Genes (1 genes and 1 SNPs were analyzed)

HNMT

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
HNMT	rs1050891	CT -	G	MEDIUM-NORMAL

5. Intolerances and Dysfunctions

Non-Alcoholic Liver Steatosis

Risk factor

MEDIUM-NORMAL

Non-alcoholic fatty liver or non-alcoholic fatty liver disease leads to the accumulation of fat in the liver. Studies show that 30% of the population of western origin has hepatic steatosis, and is more present in diabetics (approximately 80%).

Recommendations

Patient has a medium tendency to hepatic steatosis. If necessary, reduce weight and assess blood glucose and cholesterol levels (lipidogram).

Genes (9 genes and 13 SNPs were analyzed)

APOC3, DCLK1, KLF6, PEMT, PNPLA3, PPARGC1A, SH2B1, SLC38A8, TM6SF2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
PNPLA3	rs738409	GG -	G	LOW
PEMT	rs7946	CT +	T	MEDIUM-HIGH
TM6SF2	rs58542926	CT +	T	MEDIUM-HIGH
SH2B1	rs7359397	CT +	T	MEDIUM-NORMAL
APOC3	rs2854116	AG -	T	MEDIUM-NORMAL

5. Intolerances and Dysfunctions

Alzheimer's Disease

Risk factor

MEDIUM-HIGH

Progressive disease that destroys memory and other important brain functions. As we get older, our brains change and we may occasionally have trouble remembering some details. However, Alzheimer's disease and other dementias cause a loss of memory and other symptoms significant enough to interfere with people's daily lives. These symptoms are not natural of aging. Not all memory loss is caused by Alzheimer's. In addition to memory loss, Alzheimer's symptoms include: Problems completing tasks that were once easy; Difficulties in solving problems; Changes in mood or personality; removal of friends and family; Communication problems, both written and spoken; Confusion about places, people and events; Visual changes, such as problems understanding images.

Recommendations

Patient presents medium-high tendency to Alzheimer's. The practice of regular physical activity and a balanced diet in conjunction with activities that stimulate the brain (chess games, reading ...) help to reduce the progression and development of Alzheimer's.

Observations

It is worth mentioning that Alzheimer's disease is multifactorial, and that only a genetic trend is observed here. Any and all treatment must be carried out by qualified professionals.

Genes (64 genes and 134 SNPs were analyzed)

A2M, ABCA2, ABCA7, APH1B, APOC1, APOE, APOE4, APP, ARHGAP20, ATP8B4, BACE1, BDNF, BIN1, CALHM1, CD2AP, CETP, CHAT, CLU, CNTNAP2, CPS1, CR1, CTNNA3, CTSD, DAPK1, DKK1, EIF2AK2, ENTPD7, FAM171A2, FRMD4A, GAB2, GCKR, GOLM1, IDE, IL-1B, IL-6, INTERGENIC, LDLR, LRP6, LTA, MAPT, MME, MPO, MS4A6A, OLR1, PCDH11X, PCK1, PEX6, PICALM, PLAU, PLD3, POLN, PPP1R3B, PRRC2C, PSEN1, PSEN2, SORL1, SST, TAP2, TET1, TF, TFAM, TM2D3, TOMM40, TREM2

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
APOE	rs7412	TT +	T	HIGH
CETP	rs5882	AG +	A	LOW
PLD3	rs145999145	GG +	A	LOW
PICALM	rs3851179	AG -	C	LOW
CHAT	rs2177369	CC -	G	MEDIUM-HIGH

5. Intolerances and Dysfunctions

Parkinson's Disease

Risk factor

MEDIUM-NORMAL

Parkinson's disease or parkinsonism is a neurodegenerative disorder of the central nervous system, chronic and generally progressive. The main cause is the decrease in dopamine, with dopamine being a neurotransmitter, which among other things also helps in voluntary movements. With the lack of dopamine, the individual's motor control can be affected, causing tremors.

Recommendations

Patient has an average tendency to Parkinson's. The practice of regular physical activity and a balanced diet in conjunction with activities that stimulate the brain (chess games, reading ...) help to reduce the progression and development of Parkinson's.

Observations

It is worth mentioning that Parkinson's disease is multifactorial, and that only a genetic trend is observed here. Any and all treatment must be carried out by qualified professionals.

Genes (31 genes and 46 SNPs were analyzed)

ADH1C, ALDH2, BCKDK, BST1, CCDC62, CNKSR3, CTC1, DLG2, FAM171A2, FAM47E, FGF20, GALNT3, GBF1, GC, GLUD2, GNAI3, GSK3B, INTERGENIC, LRRK2, MAOB, MAPT, MC1R, MCCC1, PRDM2, RAB25, SEMA5A, SH3GL2, SNCA, TF, USP24, USP40

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
MCCC1	rs10513789	GG +	G	LOW
DLG2	rs17148090	AA +	C,G	LOW
MAOB	rs1799836	AA -	A,C	MEDIUM-HIGH
GSK3B	rs6438552	AA +	A	MEDIUM-NORMAL
MAPT	rs393152	AA +	G	MEDIUM-NORMAL

5. Intolerances and Dysfunctions

Ankylosing Spondylitis

Risk factor
NORMAL

Ankylosing spondylitis is a chronic inflammatory disease that affects the spine and large joints (shoulders, hips and knees).

Recommendations

Patient has a low tendency to ankylosing spondylitis.

Genes (11 genes and 21 SNPs were analyzed)

ARTS-1, CLSTN3, DHFRP2, ERAP1, EXOC3L1, HLA-B, IL-1B, IL-23R, INTERGENIC, LNPEP, MICA

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
LNPEP	rs2303138	GG +	A	LOW
ERAP1	rs10050860	CT +	T	LOW
INTERGENIC	rs10865331	GG +	G	LOW
ERAP1	rs30187	CC +	A,C	LOW
IL-23R	rs10889677	AC +	A	MEDIUM-HIGH

5. Intolerances and Dysfunctions

Peanut Allergy

Risk factor

MEDIUM-HIGH

Tendency to peanut allergy.

Recommendations

Check the signs and symptoms: digestive problems, vomiting, reflux, inflammation of the esophagus, urticaria. Shows medium-high trend of Peanut Allergy. Avoid excessive consumption of Peanuts and their derivatives.

Observations

People with this change are more susceptible to the effects of peanuts, which can include increased intestinal permeability and its systemic effects.

Genes (6 genes and 8 SNPs were analyzed)

HLA-DQB1, HLA-DRA, HMGA2, INTERGENIC, STAT6, STXBP6

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
INTERGENIC	rs57265082	GT +	T	MEDIUM-HIGH
STAT6	rs1059513	AA -	T	MEDIUM-HIGH
HMGA2	rs1042725	CT +	T	MEDIUM-NORMAL
HMGA2	rs10784502	TT +	T	MEDIUM-NORMAL
STXBP6	rs11850957	CC +	A,T	NORMAL

Alcohol Intolerance

Risk factor

NORMAL

The ADH1B gene metabolizes a wide variety of substrates, including ethanol, retinol, other aliphatic alcohols, hydroxysteroid and lipid peroxidation products. The accumulation of acetaldehyde can lead to aversion to alcoholic beverages.

Recommendations

Patient has no tendency towards alcohol intolerance.

Genes (1 genes and 1 SNPs were analyzed)

ADH1B

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ADH1B	rs1229984	GG -	C,G	NORMAL

5. Intolerances and Dysfunctions

Glutamate Intolerance

Risk factor

MEDIUM-NORMAL

Indicates tolerance to glutamate. If in orange or red, it indicates less tolerance to glutamate.

Recommendations

Patient has a medium tendency to glutamate intolerance. Evaluate the levels of associated nutrients, such as vitamin B6, magnesium, and cross with the polymorphisms of the same nutrients, optimizing all.

Observations

The amino acid glutamate is an amino acid found in many foods, as well as an excitatory neurotransmitter. Decreased tolerance to glutamate can result in excito toxicity.

Genes (2 genes and 14 SNPs were analyzed)

GAD1, GRIA3

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
GAD1	rs701492	TT +	T	MEDIUM-NORMAL
GAD1	rs2241165	AA -	T	NORMAL
GRIA3	rs3848874	GG +	A,T	NORMAL
GRIA3	rs687577	CC +	C	NORMAL

5. Intolerances and Dysfunctions

Mercury Intolerance

Risk factor

MEDIUM-HIGH

Naturally, it is possible that an individual can be allergic/intollerant to all four types of mercury. In many cases it is important to locate the source of exposure to mercury that causes inflammation in the body, so that exposure can be stopped.

Recommendations

Patient has medium-high tendency towards Mercury intolerance.

Genes (10 genes and 12 SNPs were analyzed)

ABCC2, GCLC, GCLM, GSTP1, MT1M, MT4, SELENOP, SLC22A6, SLC22A8, SLC7A5

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ABCC2	rs1885301	AA +	G	HIGH
ABCC2	rs2273697	GG +	A	HIGH
GSTP1	rs1695	GG +	G	LOW
SLC22A6	rs4149170	CC +	T	LOW
ABCC2	rs717620	AG -	T	MEDIUM-HIGH

5. Intolerances and Dysfunctions

Breast Neoplasm

Risk factor

MEDIUM-HIGH

Breast cancer is a disease caused by the multiplication of abnormal breast cells, which form a tumor. The graph on the side indicates the genetic predisposition to develop this condition.

Recommendations

Medium-high tendency to breast cancer. Remain under continuous medical monitoring and undergo specific exams such as mammography from the age of 25 and nuclear magnetic resonance.

Observations

It is noteworthy that neoplasms are multifactorial, and here only a genetic tendency is observed. Any and all treatments must be carried out by qualified professionals.

Genes (55 genes and 116 SNPs were analyzed)

AGER, ATM, AURKA, BARD1, BMPR1B, BRCA1, BRCA2, BRIP1, CASC16, CASC21, CASP8, CCNE1, CDKN1A, CDKN1B, CDKN2A, CDKN2B-AS1, CHEK2, COMT, CYP1B1, CYP24A1, EPCAM, FANCA, FANCC, FGFR2, FGFR4, FTO, GAD1, GPX1, GPX4, GSTP1, HER2, HMMR, HRAS, INTERGENIC, LPAR6, LSP1, MAP3K1, MIR146A, MRPS30, NCOA3, NOS3, NQO1, PALB2, RB1, SLCO1B3, STAT5B, TERT, TNF, TP53, TPD52, VDR, WRN, XRCC1, XRCC2, XRCC3

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
GSTP1	rs1695	GG +	G	MEDIUM-HIGH
MIR146A	rs2910164	CG +	G	MEDIUM-HIGH
INTERGENIC	rs13387042	AA +	G	MEDIUM-HIGH
BRCA1	rs16942	AG -	A,C	MEDIUM-HIGH
BRCA1	rs1799966	AG -	A,C	MEDIUM-NORMAL

5. Intolerances and Dysfunctions

Lung Neoplasm

Risk factor

MEDIUM-NORMAL

Cancer that starts in the lungs and most often occurs in smokers.

Recommendations

Patient has a tendency to Lung Neoplasia.

Observations

It is noteworthy that neoplasms are multifactorial, and here only a genetic tendency is observed.

Genes (33 genes and 47 SNPs were analyzed)

ABCB1, ABCC1, AKT1, ATM, AURKA, CDKN1A, CHEK2, CHRNA3, CLPTM1L, CXCR4, CYP1A1, CYP24A1, EGFR, ERCC2, FASLG, G6PD, HNF1A, HYKK, KLF6, MGMT, MMP9, MPO, MTHFR, NOCT, NQO1, PER3, PRKDC, SEZ6L, SLC44A1, SOD2, TERT, XPC, XRCC1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
CHRNA3	rs1051730	CC -	A	LOW
FASLG	rs763110	TT +	T	LOW
ERCC2	rs13181	TT +	A,G	LOW
MPO	rs2333227	TT +	T	LOW
CYP1A1	rs1799814	AC -	A,T	MEDIUM-HIGH

5. Intolerances and Dysfunctions

Mitochondrial Fatty Acid Oxidation Disorders (β-Oxidation)

Risk factor

NORMAL

Mitochondrial fatty acid β-oxidation disorders are, in their classic form, primarily genetic diseases caused by germline mutations in genes encoding enzymes responsible for the sequential degradation of fatty acids within mitochondria—the primary site of cellular energy production. In this process, called β-oxidation, fats are converted into acetyl-CoA molecules, which fuel the Krebs cycle and enable the synthesis of ATP (adenosine triphosphate), the "energy currency" used by all cells to perform vital functions, especially in high-demand tissues such as skeletal muscle, heart, and liver.

Recommendations

Presents normal genetic predisposition to Mitochondrial Fatty Acid Oxidation Disorders (β-Oxidation).

Genes (12 genes and 159 SNPs were analyzed)

ACADL, ACADM, ACADS, ACSF2, CPT1A, ECI1, EHHADH, HADH, HADHA, PECR, SCP2, SLC22A5

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ACADL	rs146511220	CC +	G,T	NORMAL
ACADL	rs184472890	AA +	G,T	NORMAL
ACADL	rs200737130	GG +	A	NORMAL
ACADM	rs121434274	GG +	A	NORMAL
ACADM	rs121434277	GG +	A,T	NORMAL

6. Inflammation and Oxidative Stress

Need for Detoxification

Risk factor

MEDIUM-HIGH

Ability to eliminate toxins and other substances harmful to health. Indications in orange or red indicate greater need for detoxification.

Recommendations

Avoid consumption of processed products, tobacco and the like. Encourage hydration and consumption of some phytochemicals such as fruits and seeds.

Genes (17 genes and 37 SNPs were analyzed)

CBS, CYP1A1, CYP1A2, CYP1B1, CYP2A6, CYP2C19, CYP2C9, CYP2D6, CYP2E1, CYP3A4, EPHX1, GSTM1, GSTP1, MTHFR, NAT2, NQO1, SULT1A1

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
CYP1B1	rs1800440	AG -	C	HIGH
NAT2	rs1208	GG +	G	MEDIUM-HIGH
NAT2	rs1801280	CC +	C	MEDIUM-HIGH
GSTP1	rs1695	GG +	G	LOW
CYP1A1	rs1799814	AC -	A,T	MEDIUM-HIGH

Tendency to Oxidative Stress

Risk factor

HIGH

Evaluation of a set of genes associated with the functioning of the reduction and oxidation system (redox) as a whole. Orange or red indicates worse functioning, that is, greater risk of oxidative stress.

Genes (30 genes and 45 SNPs were analyzed)

ADA, ALDH2, AOC1, ATF1, CAT, CBS, EPHX1, G6PD, GCLC, GPX1, GPX3, GPX4, GSR, GSTM1, GSTP1, HFE, IL-6, LCT, LTA, NFE2L2, NQO1, SELENOF, SIRT6, SLC2A14, SOD1, SOD2, SOD3, TLR4, TNF, ZNF648

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
HFE	rs1799945	GG +	G	HIGH
CAT	rs1001179	AA -	T	MEDIUM-HIGH
IL-6	rs1800795	CG +	G	LOW
ATF1	rs11169571	CC +	C	MEDIUM-HIGH
GSTP1	rs1138272	CT +	T	MEDIUM-HIGH

6. Inflammation and Oxidative Stress

IL-10

Risk factor

MEDIUM-NORMAL

Interleukin 10 (IL-10) is an important anti-inflammatory cytokine.

Recommendations

IL-10 trend high.

Genes (2 genes and 20 SNPs were analyzed)

CD40, IL-10

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
IL-10	rs1800896	AG -	C	MEDIUM-HIGH
CD40	rs4810485	GG +		MEDIUM-NORMAL
IL-10	rs1800872	AC -	G	MEDIUM-NORMAL
IL-10	rs3024493	GG -	A	NORMAL
IL-10	rs3024505	CC -	A	NORMAL

6. Inflammation and Oxidative Stress

IL-1β

Risk factor

MEDIUM-NORMAL

Interleukin 1 beta (IL-1β) is involved in the modulation of autoimmune inflammation and also in a variety of cellular activities, including cell proliferation, differentiation and apoptosis. Its overexpression may be related to carcinogenesis, degenerative and autoimmune diseases.

Recommendations

The consumption of polyunsaturated fatty acids and foods with anti-inflammatory potential reduces the risk associated with IL-1β.

Observations

Regular physical activity is extremely important and helps to maintain normal IL-1β values.

Genes (3 genes and 10 SNPs were analyzed)

ADIPOQ, IL-1B, TNF

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
TNF	rs1800629	GG +	A	LOW
ADIPOQ	rs1501299	CC -	A	MEDIUM-HIGH
IL-1B	rs16944	AG +	G	MEDIUM-NORMAL
IL-1B	rs1143627	CT -	A	MEDIUM-NORMAL
IL-1B	rs1143634	CT -	A	NORMAL

6. Inflammation and Oxidative Stress

IL-6

Risk factor

MEDIUM-HIGH

Interleukin 6 (IL-6) is an interleukin that acts as a proinflammatory cytokine and an anti inflammatory myocin.

Recommendations

The consumption of polyunsaturated fatty acids and foods with anti-inflammatory potential reduces the risk associated with IL-6.

Observations

Regular physical activity is extremely important and helps to maintain normal IL-6 values.

Genes (2 genes and 15 SNPs were analyzed)

ADIPOQ, IL-6

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
ADIPOQ	rs1501299	CC -	A	MEDIUM-HIGH
IL-6	rs1800795	CG +	G	MEDIUM-HIGH
IL-6	rs1800797	AG +	G	MEDIUM-HIGH
IL-6	rs2069832	AG +	A	MEDIUM-NORMAL
IL-6	rs1800796	GG +	C	NORMAL

6. Inflammation and Oxidative Stress

IL-8

Risk factor

MEDIUM-NORMAL

Interleukin 8 (IL-8 or CXCL8) being the main mediator of the initial innate immune response to infections or injuries, stimulates the migration of neutrophils by increasing oxidative metabolism. Its high expression is found in inflammatory diseases such as psoriasis, rheumatoid arthritis, as well as lung diseases.

Recommendations

The consumption of polyunsaturated fatty acids and foods with anti-inflammatory potential reduces the risk associated with IL-8.

Observations

Regular physical activity is extremely important and helps to maintain normal IL-8 values.

Genes (2 genes and 4 SNPs were analyzed)

CXCL8, IL-8

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
IL-8	rs1126647	AT +	T	MEDIUM-NORMAL

6. Inflammation and Oxidative Stress

IFN-γ

Risk factor

MEDIUM-NORMAL

Interferon-gamma (IFN-γ) is the main mediator of the immune response. Regulates positively a variety of pro-inflammatory parameters. It can also enhance the antiviral and anti-tumor effects of type I interferons.

Recommendations

The consumption of polyunsaturated fatty acids and foods with anti-inflammatory potential reduces the risk associated with IFN-γ.

Observations

Regular physical activity is extremely important and helps to maintain normal IFN-γ values.

Genes (1 genes and 9 SNPs were analyzed)

IFNG

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
IFNG	rs2069705	CT -	G	MEDIUM-NORMAL
IFNG	rs2430561	AT +	A	MEDIUM-NORMAL

6. Inflammation and Oxidative Stress

TNF

Risk factor

MEDIUM-HIGH

The tumor necrosis factor (TNF), is a pro-inflammatory cytokine secreted mainly by macrophages, participates in several such as: cell proliferation, apoptosis and lipid metabolism. Together with IL-6 they are very present in inflammatory processes.

Recommendations

The consumption of polyunsaturated fatty acids and foods with anti-inflammatory potential reduces the risk associated with TNF.

Observations

Regular physical activity is extremely important and helps to maintain normal TNF values.

Genes (2 genes and 14 SNPs were analyzed)

ADIPOQ, TNF

Most significant genetic changes

Gene	SNP	Genotype	Rare Allele	Result
TNF	rs1800629	GG +	A	LOW
TNF	rs361525	GG +	A	MEDIUM-HIGH
ADIPOQ	rs1501299	CC -	A	MEDIUM-HIGH
TNF	rs1800630	CC +	A	NORMAL
TNF	rs1800610	CT -	A	NORMAL

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