

DNA Wellness Report

Nutrition and Absorption Insights

For: **Test User**

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Genetic variations: 34 SNPs

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Table of contents

Introduction	2
Report summary	3
Vitamin Metabolism	4
Mineral Metabolism	13
Carbohydrate Metabolism	16
Lipid Metabolism	18
Food Preferences	20
Scientific Glossary	22
Scientific References	24
Disclaimers	28

Dear **Test User**

Thank you for choosing our genetic analysis service.

We are pleased to provide you with personalized information based on your genetic data. This report is designed to offer educational insights into selected genetic variants and their associations described in scientific literature.

Our goal is to present your results in a clear and informative format to support a better understanding of certain genetic characteristics related to general wellness. This information is intended for educational purposes only and is not intended to diagnose, treat, cure, or prevent any disease.

We hope your experience with our service has been clear, informative, and valuable. If you have any questions or need additional assistance, our team is available to help.

Thank you again for placing your trust in us.

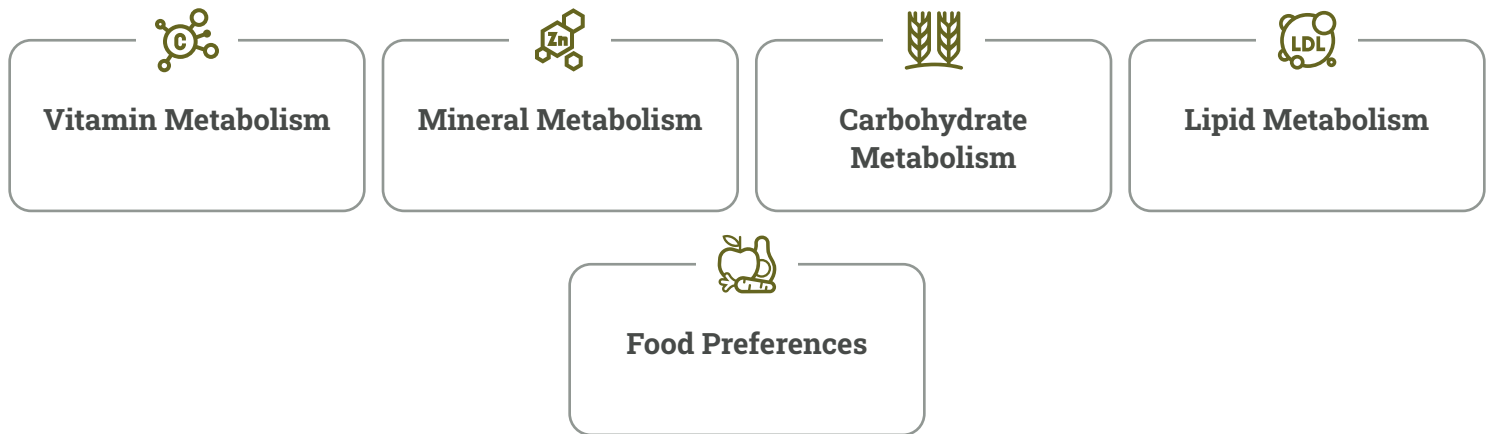
Sincerely,
MAGISNAT OMICS LLC Team

GENETIC is important

DNA Wellness Report: Nutrition and Absorption Insights

Nutrition- and absorption-related pathways include biological processes involved in the metabolism, absorption, transport, and use of nutrients in the body. This DNA report analyzes **34 selected genetic variants (SNPs)** that have been studied in relation to biological pathways associated with the metabolism of vitamins, minerals, carbohydrates, and lipids, as well as certain food preference traits. Scientific literature suggests that genetic variation may be associated with differences in certain nutrient-related processes among individuals. The information in this report is provided for educational and general wellness purposes and is intended to offer context about genetic variation and nutrition-related biological pathways. **This report is not intended to diagnose, treat, cure, or prevent any disease.**

Traits



Understanding the report

How to read your genetic results

This report presents information about selected genetic variants identified through the analysis of specific genes and their variations, known as single nucleotide polymorphisms (SNPs).

Each result is displayed in a dedicated section that includes the gene name, a description of its biological role, the specific SNP analyzed, and the genotype identified (alleles).

The information provided in this report is based on findings from published scientific research describing associations between certain genetic variants and biological processes.

For clarity, each genetic variant is presented using a color-coded system that summarizes how the identified genotype relates to scientific observations reported in literature. This system is intended to help readers easily interpret the information presented in the report.

The content of this report is provided for educational and informational purposes only and is not intended to diagnose, treat, cure, or prevent any disease.





Report summary



Vitamin Metabolism

SNP: ● rs6564851 T/T SNP: ● rs1801133 G/A SNP: ● rs4588 G/T SNP: ● rs2228570 A/G
 SNP: ● rs12934922 A/T SNP: ● rs602662 A/A SNP: ● rs2282679 T/G SNP: ● rs1527479 T/C
 SNP: ● rs7501331 C/T SNP: ● rs33972313 C/C SNP: ● rs10741657 G/G SNP: ● rs7946 T/T



Mineral Metabolism

SNP: ● rs1800562 G/G SNP: ● rs855791 A/G SNP: ● rs3811647 G/A SNP: ● rs13266634 C/C



Carbohydrate Metabolism

SNP: ● rs266729 C/C SNP: ● rs7799039 A/A SNP: ● rs1800849 G/G SNP: ● rs3774261 A/G
 SNP: ● rs2167270 G/G SNP: ● rs11185098 G/G SNP: ● rs1801282 C/C SNP: ● rs8050136 A/A



Lipid Metabolism

SNP: ● rs174547 T/C SNP: ● rs662799 A/A SNP: ● rs2070895 G/A SNP: ● rs328 C/C SNP: ● rs3734398 T/T



Food Preferences

SNP: ● rs4988235 A/A SNP: ● rs671 G/G SNP: ● rs917997 C/C SNP: ● rs10246939 T/C SNP: ● rs35874116 T/C

Genetic Data Results

Vitamin Metabolism

Vitamin metabolism includes the biological processes involved in the absorption, transport, activation, storage, and breakdown of vitamins in the body. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with vitamin metabolism. Scientific literature suggests that genetic variation may be associated with differences in certain vitamin-related processes among individuals. The information in this section is provided for educational and general wellness purposes and is intended to offer context about genetic variation and vitamin-related biological pathways.

Reference:

"Vitamin Metabolism." ScienceDirect Topics, Elsevier, n.d., <https://www.sciencedirect.com/topics/medicine-and-dentistry/vitamin-metabolism>

Vitamin A

Vitamin A is a fat-soluble vitamin that supports normal vision, normal immune function, and normal growth and development. Animal foods provide retinol, while plant foods provide beta-carotene, which the body can convert into retinol. Genetic differences may influence how the body converts and uses vitamin A.

Reference:

"Vitamin and Mineral Supplement Fact Sheets", National Institutes of Health, Office of Dietary Supplements. <https://ods.od.nih.gov/factsheets/VitaminA-Consumer/>

Your results

Gene: **BCO1** Beta-Carotene Oxygenase 1.

Key enzyme in beta-carotene metabolism to vitamin A. It catalyzes the cleavage of beta-carotene into two retinal molecules, an active form of vitamin A.

SNP: rs6564851 **Alleles:** T/T ● Normal function. [1-2]

SNP: rs12934922 **Alleles:** A/T ● Decreased beta-carotene conversion. [1][3-7]

The BCO1 gene encodes beta-carotene oxygenase 1, an enzyme involved in converting beta-carotene into retinal, a biologically active form of vitamin A. Some observational studies have explored whether the rs12934922 variant, when present in one copy (heterozygosity), is associated with decreased beta-carotene conversion.[1][3-7]

SNP: rs7501331 **Alleles:** C/T ● Decreased beta-carotene conversion. [1][3-8]

The BCO1 gene encodes beta-carotene oxygenase 1, an enzyme involved in converting beta-carotene into retinal, a biologically active form of vitamin A. Some observational studies have explored whether the rs7501331 variant, when present in one copy (heterozygosity), is associated with decreased beta-carotene conversion.[1][3-8]



Your notes



Vitamin B9

Vitamin B9, also known as folate, is a B vitamin that contributes to normal cell division and normal growth and development. It is found naturally in foods such as leafy greens, legumes, and citrus fruits, and it is also added to certain fortified foods as folic acid. Genetic differences may influence how the body processes and uses folate.

Reference:

"Vitamin and Mineral Supplement Fact Sheets", National Institutes of Health, Office of Dietary Supplements.
<https://ods.od.nih.gov/factsheets/Folate-Consumer/>

Your results

Gene: **MTHFR** Metylenetetrahydrofolate reductase.

Enzyme involved in the conversion of vitamin B9 into its biologically active form.

SNP: rs1801133 **Alleles:** **G/A** ● Possible higher homocysteine levels. [1][9]

The MTHFR gene encodes methylenetetrahydrofolate reductase, an enzyme involved in folate metabolism and in biochemical pathways related to homocysteine metabolism. Some observational studies have explored whether the rs1801133 variant, when present in one copy (heterozygosity), is associated with possible reduced enzyme activity and possible higher homocysteine levels.[1][9]



Your notes



Vitamin B12

Vitamin B12 is a water-soluble vitamin in the B-complex group that contributes to normal red blood cell formation and plays a role in DNA synthesis and normal nervous system function. It is found in foods of animal origin, including meat, fish, eggs, milk, and dairy products. Genetic differences may influence how the body absorbs and uses vitamin B12.

Reference:

"Vitamin and Mineral Supplement Fact Sheets", National Institutes of Health, Office of Dietary Supplements.
<https://ods.od.nih.gov/factsheets/VitaminB12-Consumer/>

Your results

Gene: **FUT2** Fucosyltransferase 2.

Enzyme modifying glycoproteins and glycolipids (components of the cell membrane) which are involved in the absorption and utilization of vitamin B12.

SNP: rs602662 **Alleles:** A/A ● Normal function. [1][9]



Your notes



Vitamin C

Vitamin C, also known as ascorbic acid, is a water-soluble vitamin involved in normal metabolic processes. It plays a role as an antioxidant in the body and supports the regeneration of other antioxidants and normal iron absorption. Genetic differences may influence how the body absorbs, transports, and uses vitamin C.

Reference:

"Vitamin and Mineral Supplement Fact Sheets", National Institutes of Health, Office of Dietary Supplements. <https://ods.od.nih.gov/factsheets/VitaminC-Consumer/>

Your results

Gene: **SLC23A1** Sodium-dependent vitamin C transporter 1.
Sodium/ascorbate cotransporter. Mediates electrogenic uptake of vitamin C.

SNP: rs33972313 **Alleles:** C/C ● Normal function. [1][10-13]



Your notes



Vitamin D

Vitamin D is a fat-soluble vitamin that supports normal bone health, normal immune function, normal muscle function, and normal cell growth and differentiation. It also supports normal calcium absorption. Vitamin D can be produced through sunlight exposure and is found in certain foods, including fortified foods and fatty fish. Genetic differences may influence how the body stores and uses vitamin D.

Reference:

"Vitamin and Mineral Supplement Fact Sheets", National Institutes of Health, Office of Dietary Supplements.
<https://ods.od.nih.gov/factsheets/VitaminD-Consumer/>

Your results

Gene: GC Vitamin D-binding protein.

Protein binding vitamin D and its plasma metabolites to transport them to target tissues.

SNP: rs4588 **Alleles:** G/T ● Somewhat lower 25-hydroxyvitamin D (main circulating form) levels. [1][9-10]

The GC gene encodes the vitamin D-binding protein, which is responsible for binding and transporting vitamin D and its metabolites in the bloodstream. [1] Some observational studies have explored whether the rs2282679 variant, when present in one copy (heterozygosity), is associated with somewhat lower circulating levels of vitamin D-binding protein and possible somewhat lower 25-hydroxyvitamin D (the main circulating form of vitamin D) levels. [9-10] A qualified healthcare professional can help assess whether your diet, including vitamin D intake, is appropriate for your individual needs.

SNP: rs2282679 **Alleles:** T/G ● Somewhat lower vitamin D levels. [1][9-10][14-15]

The GC gene encodes the vitamin D-binding protein, which is responsible for binding and transporting vitamin D and its metabolites in the bloodstream. [1] Some observational studies have explored whether the rs2282679 variant, when present in one copy (heterozygosity), is associated with somewhat lower vitamin D levels. [9-10][14-15] A qualified healthcare professional can help assess whether your diet, including vitamin D intake, is appropriate for your individual needs.

Gene: CYP2R1 Cytochrome P450 2R1.

Enzyme converting vitamin D into the active ligand for the vitamin D receptor.

SNP: rs10741657 **Alleles:** G/G ● Possible lower vitamin D levels. [1][9][16-17]

The CYP2R1 gene encodes cytochrome P450 2R1, an enzyme involved in vitamin D metabolism, including the conversion of vitamin D into 25-hydroxyvitamin D, the main circulating form. [1][9] Some observational studies have explored whether the rs10741657 variant, when present in two copies (homozygosity), is associated with possible lower vitamin D levels. [16-17] A qualified healthcare professional can help assess whether your diet, including vitamin D intake, is appropriate for your individual needs.

Gene: VDR Vitamin D receptor.

Receptor allowing the body to respond to vitamin D.

SNP: rs2228570 **Alleles:** A/G ● Normal function. [1][17-21]



Your notes



Vitamin E

Vitamin E is a fat-soluble vitamin that acts as an antioxidant and helps protect cells from oxidative stress. It supports normal growth and development and plays a role in normal nervous system and immune function. It is found in nuts, seeds, and vegetable oils. Genetic differences may influence how the body absorbs and uses vitamin E.

Reference:

"Vitamin and Mineral Supplement Fact Sheets", National Institutes of Health, Office of Dietary Supplements. <https://ods.od.nih.gov/factsheets/VitaminE-Consumer/>

Your results

Gene: CD36 Platelet glycoprotein 4.

Membrane transporter of fatty acid.

SNP: rs1527479 **Alleles:** T/C ● Somewhat lower plasma vitamin E concentration. [1][10]

The CD36 gene encodes platelet glycoprotein 4 (CD36), a membrane protein involved in fatty acid uptake.[1] Some observational studies have explored whether the rs1527479 variant, when present in one copy (heterozygosity), is associated with somewhat lower plasma vitamin E concentration.[10] A qualified healthcare professional can help assess whether your diet, including vitamin E intake, is appropriate for your individual needs.



Your notes



Choline

Choline is a nutrient involved in cell membrane structure and in the production of acetylcholine, a compound that plays a role in normal muscle movement, nervous system function, learning, memory, and attention. It also supports normal liver and muscle function. Choline is found in foods such as eggs, meat, and legumes, and the body can produce some choline on its own. Genetic differences may influence how the body uses choline.

Reference:

"Vitamin and Mineral Supplement Fact Sheets", National Institutes of Health, Office of Dietary Supplements. <https://ods.od.nih.gov/factsheets/Choline-Consumer/>

Your results

Gene: **PEMT**

Phosphatidylethanolamine N-methyltransferase.

Enzyme playing a crucial role in the biosynthesis of phosphatidylcholine, a critical component for membrane structure.

SNP: rs7946

Alleles: T/T

● Possible decreased enzyme activity. [1][22-25][26]

The PEMT gene encodes phosphatidylethanolamine N- methyltransferase, an enzyme involved in the synthesis of phosphatidylcholine, an important component of cell membranes in tissues such as the liver, lungs, and brain.[1] Some observational studies have explored whether the rs7946 variant, when present in two copies (homozygosity), is associated with decreased enzyme activity.[22-25]



Your notes



Mineral Metabolism

Mineral metabolism includes the biological processes involved in the absorption, transport, utilization, and storage of essential minerals in the body. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with mineral metabolism. Scientific literature suggests that genetic variation may be associated with differences in certain mineral-related processes among individuals. The information in this section is provided for educational and general wellness purposes and is intended to offer context about genetic variation and mineral-related biological pathways.

**Reference: **

“Mineral Metabolism.” ScienceDirect Topics, Elsevier, n.d., <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/mineral-metabolism>

Iron

Iron is a mineral that supports normal oxygen transport and plays a role in normal enzyme function and normal production of certain hormones and connective tissue. It is found in foods such as meat, legumes, and fortified grains. Genetic differences may influence how the body regulates and uses iron.

Reference:

“Vitamin and Mineral Supplement Fact Sheets”, National Institutes of Health, Office of Dietary Supplements. <https://ods.od.nih.gov/factsheets/Iron-Consumer/>

Your results

Gene: HFE Hemojuvelin or High Fe (iron) protein.

Protein involved in the regulation of iron homeostasis in the body by controlling iron absorption from the diet and the maintenance of iron levels in the bloodstream.

SNP: rs1800562 **Alleles:** G/G ● Normal function. [9][27]

Gene: TMPRSS6 Transmembrane protease serine 6 or Matriptase-2.

Protein playing a critical role in the regulation of iron homeostasis in the body.

SNP: rs855791 **Alleles:** A/G ● Possible lower ferritin levels. [3][27]

The TMPRSS6 gene encodes transmembrane protease serine 6 (matriptase-2), a protein involved in iron regulation through pathways related to hepcidin, a hormone that helps regulate iron balance in the body. Some observational studies have explored whether the rs855791 variant, when present in one copy (heterozygosity), is associated with possible lower ferritin levels, a biomarker related to iron storage.[3][27] A qualified healthcare professional can help assess whether your diet, including iron intake, is appropriate for your individual needs.



Gene: TF Transferrin.

Transferrin, main iron transport protein in blood.

SNP: rs3811647 **Alleles:** G/A ● Possible higher ferritin. [3][27-29]

The TF gene encodes transferrin, the main iron transport protein in the blood. It binds iron and helps transport it from sites of absorption or storage to where it is needed in the body. Some observational studies have explored whether the rs3811647 variant, when present in one copy (heterozygosity), is associated with possible higher ferritin levels, a biomarker related to iron storage.[3][27-29] A qualified healthcare professional can help assess whether your diet, including iron intake, is appropriate for your individual needs.



Your notes



Zinc

Zinc is a mineral that plays a role in normal immune function, normal wound healing, and normal hormone-related processes. It is found in foods such as meat, legumes, and seeds. Genetic differences may influence how the body absorbs and uses zinc.

Reference:

"Vitamin and Mineral Supplement Fact Sheets", National Institutes of Health, Office of Dietary Supplements. <https://ods.od.nih.gov/factsheets/Zinc-Consumer/>

Your results

Gene: **SLC30A8** Zinc transporter 8.

Protein playing a crucial role in the regulation of zinc homeostasis within insulin-secreting pancreatic cells.

SNP: rs13266634 **Alleles:** C/C ● Possible lower zinc level and higher glucose levels in blood. [3][27][30-31]

The SLC30A8 gene encodes zinc transporter 8, a protein involved in transporting zinc in pancreatic cells, where zinc plays a role in insulin-related processes. Some observational studies have explored whether the rs13266634 variant, when present in two copies (homozygosity), is associated with possible lower zinc levels and possible higher glucose levels in blood.[3][27][30-31] A qualified healthcare professional can help assess whether your diet, including zinc intake, is appropriate for your individual needs.



Your notes

Carbohydrate Metabolism

Carbohydrate metabolism includes the biological processes involved in the breakdown, storage, and use of sugars in the body. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with carbohydrate metabolism. Scientific literature suggests that genetic variation may be associated with differences in certain carbohydrate-related processes among individuals. The information in this section is provided for educational and general wellness purposes and is intended to offer context about genetic variation and carbohydrate-related biological pathways.

Reference:

"Carbohydrate Metabolism." ScienceDirect Topics, Elsevier, n.d., <https://www.sciencedirect.com/topics/medicine-and-dentistry/carbohydrate-metabolism>

Your results

Gene: **ADIPOQ** Adiponectin.

Hormone produced and secreted by the adipose tissue. Low adiponectin levels have implications in metabolic health, insulin sensitivity, inflammation, and cardiovascular function.

SNP: rs266729 **Alleles:** C/C ● Normal function. [24][32]

SNP: rs3774261 **Alleles:** A/G ● Possible low response to insulin. [39]

The ADIPOQ gene helps produce adiponectin, a hormone involved in insulin sensitivity and glucose balance. Insulin is a hormone that helps regulate blood glucose by supporting the movement of glucose into cells. Some observational studies have explored whether having one copy (heterozygosity) of the rs3774261 variant has been associated with a possible low response to insulin. [39] A qualified healthcare professional can help assess whether your diet is appropriate for your individual needs.

Gene: **LEP** Leptin.

Hormone produced by adipose tissue and involved in the regulation of energy balance and body weight.

SNP: rs2167270 **Alleles:** G/G ● Normal function. [24][32]

Gene: **LEPR** Leptin receptor.

It binds leptin and, in concert with it, regulates energy metabolism and body weight.

SNP: rs7799039 **Alleles:** A/A ● Possible high BMI. [32-34]

The LEPR gene encodes the leptin receptor, a protein involved in signaling pathways related to appetite regulation and energy balance in the body. Some observational studies have explored whether the rs7799039 variant, when present in two copies (homozygosity), is associated with possible high Body Mass Index (BMI) and possible lower response to insulin. [32-34] A qualified healthcare professional can help assess whether your diet is appropriate for your individual needs.



Gene: AMY1A Alpha-Amylase 1A.

Protein involved in the first steps of digestion of carbohydrates in saliva.

SNP: rs11185098 **Alleles:** G/G ● Normal function. [32][35]

Gene: UCP3 Uncoupling Protein 3.

Protein present in the mitochondria and involved in energy equilibrium.

SNP: rs1800849 **Alleles:** G/G ● Normal function. [32][36]

Gene: PPARG Peroxisome Proliferator-Activated Receptor Gamma.

Receptor that regulates fatty acid deposition and glucose metabolism.

SNP: rs1801282 **Alleles:** C/C ● Normal function. [32][37-38]

Gene: FTO Fat mass and obesity-associated protein.

Protein involved in the control of body weight and energy metabolism.

SNP: rs8050136 **Alleles:** A/A ● Possible low response to insulin. [40]

The FTO gene helps produce the fat mass and obesity-associated protein, which is involved in energy metabolism and body weight regulation. Some observational studies have explored whether having two copies (homozygosity) of the rs8050136 variant has been associated with a possible low response to insulin. [40] A qualified healthcare professional can help assess whether your diet is appropriate for your individual needs.



Your notes

Lipid Metabolism

Lipid metabolism includes the biological processes involved in the absorption, transport, synthesis, storage, and breakdown of dietary fats and other lipid compounds in the body. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with lipid metabolism. Scientific literature suggests that genetic variation may be associated with differences in certain lipid-related processes among individuals. The information in this section is provided for educational and general wellness purposes and is intended to offer context about genetic variation and lipid-related biological pathways.

Reference:

Chandel, Navdeep S. "Lipid Metabolism." Cold Spring Harbor Perspectives in Biology vol. 13,9 a040576. 2021. doi:10.1101/cshperspect.a040576

Your results

Gene: FADS1 Fatty acid desaturase 1.

Enzyme involved in the desaturation of polyunsaturated fats.

SNP: rs174547 **Alleles:** T/C ● Decreased enzyme activity. [24][32]

The FADS1 gene helps produce fatty acid desaturase 1, an enzyme involved in processing essential fatty acids, including omega-3 and omega-6 fatty acids. This enzyme plays a role in fatty acid balance in the body. Some observational studies have explored whether having one copy (heterozygosity) of the rs174547 variant has been associated with decreased enzyme activity and with differences in fatty acid balance.[24][32] A qualified healthcare professional can help assess whether your diet is appropriate for your individual needs.

Gene: APOA5 Apolipoprotein A-V.

Component of lipoproteins, present in the blood and playing a crucial role in lipid transport in the body.

SNP: rs662799 **Alleles:** A/A ● Normal function. [4][32][41-44]

Gene: LIPC Hepatic lipase.

Enzyme breaking down triglycerides and phospholipids present in high-density lipoproteins (HDL).

SNP: rs2070895 **Alleles:** G/A ● Possible higher levels of fasting glucose, total cholesterol, and triglycerides. [32][45-46]

The LIPC gene helps produce hepatic lipase, an enzyme involved in lipid metabolism, including the processing of triglycerides and lipoproteins such as HDL (high-density lipoproteins). Some observational studies have explored whether having one copy (heterozygosity) of the rs5128 variant has been associated with higher levels of fasting plasma glucose, total cholesterol, and triglycerides.[32][45-46] A qualified healthcare professional can help assess whether your diet is appropriate for your individual needs.



Gene: LPL Lipoprotein lipase.

Enzyme playing a crucial role in the breakdown of triglycerides present in circulating lipoproteins.

SNP: rs328 **Alleles:** C/C ● Normal function. [32][47-48]

Gene: ELOVL2 Fatty acid elongase 2.

Protein involved in the synthesis of very long polyunsaturated fatty acids (VLC-PUFAs), which have several critical roles in our body.

SNP: rs3734398 **Alleles:** T/T ● Normal function. [32][49-50]



Your notes

Food Preferences

Food preferences are influenced by a combination of genetic, sensory, and environmental factors. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with taste perception and food preference patterns. Scientific literature suggests that genetic variation may be associated with differences in certain taste-related and food-related processes among individuals. The information in this section is provided for educational and general wellness purposes and is intended to offer context about genetic variation and food-related biological pathways.

Reference:

Drewnowski, A. "Taste preferences and food intake." Annual Review of Nutrition vol. 17 (1997): 237-53. doi:10.1146/annurev.nutr.17.1.237

Your results

Gene: LCT Lactase.

Enzyme which breaks down lactose, the main sugar in mammalian milk.

SNP: rs4988235 **Alleles:** A/A ● Normal Function. [51-53]

Gene: ALDH2 Aldehyde Dehydrogenase 2.

Enzyme required for clearance of cellular acetaldehyde, a toxic byproduct of alcohol metabolism, and formaldehyde, a toxic byproduct of some metabolic process and environmental pollutant.

SNP: rs671 **Alleles:** G/G ● Normal function. [51][54-57]

Gene: IL-18 Interleukin 18.

Signaling protein playing a key role in the immune system and part of the interleukin family of cytokines. It is involved in epithelial barrier repair and immune responses.

SNP: rs917997 **Alleles:** C/C ● Normal function. [58-60]

Gene: TAS2R38 Taste receptor type 2 member 38.

Receptor involved in the perception of a wide range of bitter compounds.

SNP: rs10246939 **Alleles:** T/C ● Normal function. [51][61]



Gene: TAS1R2 Taste receptor type 1 member 2.

Receptor involved in the detection of chemical stimuli involved in sensory perception of sweet taste.

SNP: rs35874116 **Alleles:** T/C ● Somewhat increased intensity and liking of the sweet taste. [51][62]

The TAS1R2 gene helps produce taste receptor type 1 member 2, a receptor involved in how the body perceives sweet taste. Some observational studies have explored whether having one copy (heterozygosity) of the rs35874116 variant has been associated with somewhat increased intensity and liking of the sweet taste.[51][62]



Your notes



Scientific Glossary

When discussing genetics, it's often necessary to use many technical terms, and there's no way to avoid it if we want to maintain accuracy in explanations. That's why we have compiled a scientific glossary - to enable everyone to understand without getting overwhelmed.

Anyway, it is important to emphasize that our scientific glossary does not aim to be exhaustive and is not intended to replace the advice provided by your healthcare provider. Professional medical support is essential for a proper interpretation of genetic data and for developing a personalized health and wellness plan.

Allele

An allele is one of the different forms of a specific gene. The differences among alleles arise from small changes in the DNA sequence and can lead to changes in the characteristic controlled by the gene itself.

Chromosome

An allele is one of the different forms of a specific gene. The differences among alleles arise from small changes in the DNA sequence and can lead to changes in the characteristic controlled by the gene itself.

Dietary supplement

A dietary supplement is a product that contains one or more dietary ingredients, such as vitamins, minerals, herbs, amino acids, enzymes, or other substances, intended to supplement the diet. These supplements are available in various forms, including pills, capsules, tablets, powders, or liquids.

DNA

DNA stands for Deoxyribonucleic Acid. It is the macromolecule containing the information to build the organism. It is made up of 4 different nucleotides (Adenine, Cytosine, Guanine and Thymine). The human DNA have 3 billion nucleotide basepairs.

Gene

A gene is a segment of a chromosome that occupies a given locus on it and codes for a protein, each one with a specific function: some build the structure of our cells, some respond to signaling molecules, some catalyze reactions (these are called enzymes), and so on.

Genetic Variant

A genetic variant is a change or alteration in the DNA sequence of a gene. The main genetic variant types include base substitutions, deletions, or insertions.

Genomics

Genomics is a field of biology that focuses on the study of an organism's entire genome, which is the complete set of its genetic material. It involves the comprehensive analysis of genes, their functions, interactions, and variations within and between populations.

Genotype

The genotype is the genetic makeup of an organism, then the combination of alleles presents in an individual's DNA at a particular locus on a chromosome. The genotype represents the specific genetic information that an organism inherits from its parents.

Heterozygosity

Heterozygosity refers to having two different alleles at a specific genetic locus. If an individual has one copy of the "A" allele and one copy of the "B" allele for a certain gene (AB genotype), they are said to be heterozygous for that gene.

Homozygosity

Homozygosity refers to having two identical alleles at a specific genetic locus. If an individual has two copies of the "A" allele for a certain gene (AA genotype), they are said to be homozygous for that gene.

Macronutrient

Macronutrients are essential nutrients that are required by the body in large quantities to maintain proper functioning, growth, and overall health. These nutrients provide the necessary energy and building blocks needed for various physiological processes. The three primary macronutrients are: carbohydrates, lipids (fat), and proteins.



Micronutrient

Micronutrients are essential nutrients required by the body in smaller quantities but are equally important for maintaining overall health and supporting various physiological functions. Micronutrients include two main groups: vitamins and minerals.

Nutritional deficiency

Nutritional deficiency, also known as malnutrition, refers to a condition in which the body does not receive enough macronutrients or micronutrients, which are needed to support proper growth, development, and overall wellness.

Phenotype

The phenotype is any observable trait arising from a complex interplay between a given genotype and environmental factors. Examples of phenotypes are height, eye color and blood type.

rsID number

rsID numbers are identifiers used by researchers to name different SNPs.

SNPs (Single Nucleotide Polymorphism)

A SNP, or single nucleotide polymorphism, is a genetic variant in one of the nucleotide bases composing DNA and found in more than 1% of the population.

Scientific References

- [1] Micheletti, C et al. "Nutrigenomics: SNPs correlated to vitamins' deficiencies." *La Clinica terapeutica* vol. 174,Suppl 2(6) (2023): 173-182. doi:10.7417/CT.2023.2485
- [2] Lietz, Georg et al. "Single nucleotide polymorphisms upstream from the β -carotene 15,15'-monooxygenase gene influence provitamin A conversion efficiency in female volunteers." *The Journal of nutrition* vol. 142,1 (2012): 161S-5S. doi:10.3945/jn.111.140756
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