MAGISNAT®
The science behind the natural molecules and the Mediterranean diet

DNA Wellness Report
Weight Management Insights

For: Test User

KIT ID: X-M1PT00 | Report type: Wellness | Genetic variations: 41 SNPs | Date: 05/07/2026

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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

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GENETIC is important

DNA Wellness Report: Weight Management Insights

Weight management–related pathways include biological processes influenced by both lifestyle factors and genetic variation. This DNA report analyzes **41 selected genetic variants (SNPs)** that have been studied in relation to biological pathways associated with nutrient metabolism, energy balance, fat distribution, diet response, and body composition–related traits. Scientific literature suggests that genetic variation may be associated with differences in certain weight-related and body composition–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 weight-related biological pathways. **This report is not intended to diagnose, treat, cure, or prevent any disease.**

Traits

Diet Response Insights

Fat Distribution Insights

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.

- Typically reported variation
- No clear reported association
- Moderate reported variation
- Greater reported variation

Report summary

Diet Response Insights

SNP: rs1801133 G/A	SNP: rs266729 C/C	SNP: rs5082 G/A	SNP: rs671 G/G	SNP: rs3774261 A/G
SNP: rs1801131 T/G	SNP: rs7799039 A/A	SNP: rs662799 A/A	SNP: rs35874116 T/C	SNP: rs429358 T/T
SNP: rs602662 A/A	SNP: rs659366 C/T	SNP: rs987237 A/A	SNP: rs8192678 T/T	
SNP: rs2282679 T/G	SNP: rs1800849 G/G	SNP: rs2272903 G/G	SNP: rs1799983 T/G	
SNP: rs855791 A/G	SNP: rs1801282 C/C	SNP: rs1800592 T/C	SNP: rs490683 G/C	
SNP: rs13266634 C/C	SNP: rs1558902 A/A	SNP: rs4988235 A/A	SNP: rs17300539 G/A	

Fat Distribution Insights

SNP: rs2241423 G/G	SNP: rs3751812 T/T	SNP: rs62033400 A/A	SNP: rs7202116 G/G	SNP: rs12149832 A/A
SNP: rs997295 T/T	SNP: rs182052 G/A	SNP: rs17817449 G/G	SNP: rs9941349 T/T	SNP: rs6499653 C/C
SNP: rs8050136 A/A	SNP: rs734597 G/G	SNP: rs9936385 C/C	SNP: rs9930506 G/G	SNP: rs1121980 A/A

Genetic Data Results

Diet Response Insights

Diet response– related pathways include biological processes associated with fat metabolism, carbohydrate metabolism, and other diet-related traits. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with diet response. Scientific literature suggests that genetic variation may be associated with differences in certain diet-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 diet-related biological pathways.

Reference:

Singar, Saiful et al. "Personalized Nutrition: Tailoring Dietary Recommendations through Genetic Insights." Nutrients vol. 16,16 2673. 13 Aug.2024, doi:10.3390/nu16162673

Your results

Gene: MTHFR — Methylenetetrahydrofolate reductase.

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

SNP: rs1801133 **Alleles: G/A** Possibly decreased enzyme function. [1-3]

The MTHFR gene helps produce methylenetetrahydrofolate reductase, an enzyme involved in processing folate into a form the body can use. Some observational studies have explored whether having one copy (heterozygosity) of the rs1801133 variant has been associated with possible decreased enzyme function.[1-3] A qualified healthcare professional can help assess whether your diet, including folate (vitamin 9) intake, is appropriate for your individual needs.

SNP: rs1801131 **Alleles: T/G** Possibly impaired folate metabolism. [4-5]

The MTHFR gene helps produce methylenetetrahydrofolate reductase, an enzyme involved in converting folate into a form the body can use. Some observational studies have explored whether having one copy (heterozygosity) of the rs1801131 variant has been associated with possibly impaired folate metabolism.[4-5] A qualified healthcare professional can help assess whether your diet, including vitamin B12 and vitamin B6 intake, is appropriate for your individual needs.

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. [1-2][6]

Gene: GC — Vitamin D-binding protein.

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

SNP: rs2282679 **Alleles: T/G** Somewhat lower vitamin D levels. [1-2][7-8]

The GC gene helps produce vitamin D- binding protein, which is involved in transporting vitamin D and its metabolites in the bloodstream. Some observational studies have explored whether having one copy (heterozygosity) of the rs2282679 variant has been associated with somewhat lower vitamin D levels.[1-2][7-8] A qualified healthcare professional can help assess whether your diet, including vitamin D intake, is appropriate for your individual needs.

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. [9-11]

The TMPRSS6 gene helps produce transmembrane protease serine 6, a protein involved in iron regulation in the body. Some observational studies have explored whether having one copy (heterozygosity) of the rs855791 variant has been associated with possible lower ferritin levels.[9-11] A qualified healthcare professional can help assess whether your diet, including iron and vitamin C intake, is appropriate for your individual needs.

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 reduced response to insulin. [12-13]

The SLC30A8 gene helps produce zinc transporter 8, a protein involved in zinc transport in pancreatic cells and in normal insulin-related processes. Some observational studies have explored whether having two copies (homozygosity) of the rs13266634 variant has been associated with possible reduced response to insulin.[12-13] A qualified healthcare professional can help assess whether your diet, including zinc intake, is appropriate for your individual needs.

Gene: ADIPOQ — Adiponectin.

Hormone playing a role in glucose metabolism.
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. [14-16]

SNP: rs17300539 **Alleles: G/A** Dieting more effective. [57]

The ADIPOQ gene helps produce adiponectin, a hormone involved in insulin sensitivity and glucose balance in the body. Some observational studies have explored whether having one copy (heterozygosity) of the rs17300539 variant has been associated with dieting more effective.[57]

SNP: rs3774261 **Alleles: A/G** Possible reduced response to insulin. [57-58]

The ADIPOQ gene helps produce adiponectin, a hormone involved in insulin sensitivity and glucose balance in the body. Some observational studies have explored whether having one copy (heterozygosity) of the rs3774261 variant has been associated with possible reduced response to insulin.[57-58] A qualified healthcare professional can help assess whether your diet is appropriate for your individual needs.

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 and high leptin levels. [15][17-19]

The LEPR gene helps produce the leptin receptor, which is involved in appetite and energy-balance signaling in the body. Some observational studies have explored whether having two copies copy (homozygosity) of the rs7799039 variant has been associated with possible high BMI and high leptin levels. [15] [17-19] A qualified healthcare professional can help assess whether your diet is appropriate for your individual needs.

Gene: UCP2 — Uncoupling Protein 2.

Protein present in the mitochondria and involved in energy equilibrium.

SNP: rs659366 **Alleles: C/T** Possible high BMI. [15][20-24]

The UCP2 gene helps produce uncoupling protein 2, a protein involved in energy balance and metabolic processes in the body. Some observational studies have explored whether having one copy (heterozygosity) of the rs659366 variant has been associated with possible high BMI. [15] [20-24] A qualified healthcare professional can help assess whether your diet is appropriate for your individual needs.

Gene: UCP3 — Uncoupling Protein 3.

Protein present in the mitochondria and involved in energy equilibrium.

SNP: rs1800849 **Alleles: G/G** Normal function. [15] [25]

Gene: PPARG — Peroxisome Proliferator-Activated Receptor Gamma.

Receptor that regulates fatty acid deposition and glucose metabolism.

SNP: rs1801282 **Alleles: C/C** Normal function. [15] [26-27]

Gene: FTO — Fat mass and obesity-associated protein.

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

SNP: rs1558902 **Alleles: A/A** Possible high BMI; better response to high-protein diets. [2][15][28-29]

The FTO gene helps produce the fat mass and obesity-associated protein, which is involved in body weight regulation and energy metabolism. Some observational studies have explored whether having two copies (homozygosity) of the rs1558902 variant has been associated with possible high BMI and with differences in response to high-protein diets for weight management. [2] [15] [28-29] A qualified healthcare professional can help assess whether your diet, including low-fat and a high-protein intake, is appropriate for your individual needs.

Gene: APOA2 — Apolipoprotein A-II.

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

SNP: rs5082 **Alleles: G/A** Normal function. [15][30-32]

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** Possible higher tryglycerides levels. [15][30][33-36]

The APOA5 gene helps produce apolipoprotein A-V, a protein involved in triglyceride metabolism. Triglycerides are a type of fat found in the bloodstream and stored in adipose tissue. Some observational studies have explored whether having two copies (homozygosity) of the rs662799 variant has been associated with possible higher tryglycerides levels. [15] [30] [33-36] A qualified healthcare professional can help assess whether your diet is appropriate for your individual needs.

Gene: TFAP2B — Transcription factor AP-2 beta.

Transcription factor regulating genes that control cell growth, differentiation, apoptosis (programmed cell death).

SNP: rs987237 **Alleles: A/A** Better response to high-protein diets. [15][37-38]

The TFAP2B gene helps produce transcription factor AP-2 beta, a protein involved in regulating genes linked to cell growth, fat-cell function, and energy balance. Some observational studies have explored whether having two copies (homozygosity) of the rs987237 variant has been associated with better response to high-protein diets for weight management. [15] [37-38]A qualified healthcare professional can help assess whether your diet, including low-fat and high-protein intake, is appropriate for your individual needs.

SNP: rs2272903 **Alleles: G/G** Possible high BMI. [15][37-38]

The TFAP2B gene helps produce transcription factor AP-2 beta, a protein involved in pathways related to fat-cell function and energy balance. Some observational studies have explored whether having two copies (homozygosity) of the rs2272903 variant has been associated with possible high BMI.[15][37-38] A qualified healthcare professional can help assess whether your diet is appropriate for your individual needs.

Gene: UCP1 — Uncoupling protein 1.

Protein playing a significant role in thermogenesis, a process by which the body generates heat in response to environmental changes in temperature or diet.

SNP: rs1800592 **Alleles: T/C** Possible high BMI. [15][39]

The UCP1 gene helps produce uncoupling protein 1, a protein involved in how brown fat uses stored energy to generate heat. Some observational studies have explored whether having one copy (heterozygosity) of the rs1800592 variant has been associated with possible high BMI. [15] [39] A qualified healthcare professional can help assess whether your diet, including low-fat intake, is appropriate for your individual needs.

Gene: LCT — Lactase

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

SNP: rs4988235 **Alleles: A/A** Normal function. [40-43]

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. [40][44-48][49]

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** Reduced sensitivity to sweet and fatty tastes. Possible increased BMI, waist circumference, and triglyceride levels. [40][50-51]

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 reduced sensitivity to sweet and fatty tastes and with possible increased BMI, waist circumference, and triglyceride levels.[40][50-51] A qualified healthcare professional can help assess whether your diet, including reduce carbohydrates and fat intake, is appropriate for your individual needs.

Gene: PPARGC1A — Peroxisome Proliferator-Activated Receptor Gamma Coactivator 1 Alpha.

Transcriptional coactivator regulating the expression of genes involved in energy metabolism, mitochondrial biogenesis, and adaptive thermogenesis.

SNP: rs8192678 **Alleles: T/T** Possible higher BMI. [52-54]

The PPARGC1A gene helps produce peroxisome proliferator- activated receptor gamma coactivator 1- alpha, a protein involved in energy metabolism and mitochondrial function. Some observational studies have explored whether having two copies (homozygosity) of the rs8192678 variant has been associated with possible higher BMI.[52-54] A qualified healthcare professional can help assess whether your diet and phisical activity routine are appropriate for your individual needs.

Gene: NOS3 — Nitric Oxide Synthase 3.

Enzyme involved in the production of nitric oxide, a signaling molecule crucial for the regulation of blood vessel dilation, blood pressure, and vascular health.

SNP: rs1799983 **Alleles: T/G** Somewhat reduced enzyme function. [55]

The NOS3 gene helps produce endothelial nitric oxide synthase (eNOS), an enzyme involved in producing nitric oxide, a signaling molecule that supports normal blood vessel function. Some observational studies have explored whether having one copy (heterozygosity) of the rs1799983 variant has been associated with somewhat reduced enzyme function.[55]

Gene: GHSR — Growth Hormone Secretagogue Receptor.

Receptor binding ghrelin, hormone involved in the regulation of appetite, hunger, and growth hormone release.

SNP: rs490683 **Alleles: G/C** Normal function. [56]

Gene: APOE — Apolipoprotein E.

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

SNP: rs429358 **Alleles: T/T** Normal function. [71]

Your notes

Fat Distribution Insights

Fat distribution–related pathways include biological processes associated with body fat distribution and body composition. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with fat distribution. Scientific literature suggests that genetic variation may be associated with differences in certain body composition–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 fat distribution–related biological pathways.

Reference:

Agrawal, Saaket, et al. "Inherited Basis of Visceral, Abdominal Subcutaneous and Gluteofemoral Fat Depots." Nature Communications, vol. 13, article no. 3771, 30 June 2022, https://doi.org/10.1038/s41467-022-30931

Your results

Gene: MAP2K5 Mitogen-Activated Protein Kinase Kinase 5.

Enzyme involved in the response of the cell to external stimuli.

SNP: rs2241423 **Alleles: G/G** Possible increased BMI. [59]

The MAP2K5 gene helps produce mitogen- activated protein kinase kinase 5, a protein involved in signaling pathways related to metabolism and energy balance. Some observational studies have explored whether having two copies (homozygosity)of the rs2241423 variant has been associated with possible increased BMI.[59] A qualified healthcare professional can help assess whether your diet is appropriate for your individual needs.

SNP: rs997295 **Alleles: T/T** Possible lower BMI. [60]

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: rs182052 **Alleles: G/A** Possible higher waist circumference. [63]

The ADIPOQ gene helps produce adiponectin, a hormone involved in insulin sensitivity and glucose balance in the body. Some observational studies have explored whether having one copy (heterozygosity) of the rs182052 variant has been associated with possible higher waist circumference.[63] A qualified healthcare professional can help assess whether your diet and physical activity routine are appropriate for your individual needs.

Gene: GRCh38.p14 — Intergenic Region

Region between two genes.

SNP: rs734597 **Alleles: G/G** Normal function. [64]

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.

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