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DNA Wellness Report
Brain and Sleep Insights

For: Test User

KIT ID: X-M1PT00 | Report type: Wellness | Genetic variations: 14 SNPs | Date: 05/07/2026

Table of contents

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: Brain and Sleep Insights

Brain- and sleep-related pathways include biological processes influenced by both environmental factors and genetic variation. This DNA report analyzes **14 selected genetic variants (SNPs)** that have been studied in relation to biological pathways associated with sleep-related traits, stress-response pathways, mood-related traits, attention-related processes, memory-related functions, and brain-related processes. Scientific literature suggests that genetic variation may be associated with differences in certain sleep- related and cognitive- 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 brain- and sleep-related biological pathways. **This report is not intended to diagnose, treat, cure, or prevent any disease.**

Traits

- **Sleep Insights**
- **Stress Response, Mood and Focus Insights**
- **Brain Function 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

Sleep Insights

SNP: rs1801133 G/A SNP: rs2228570 A/G SNP: rs762551 A/A SNP: rs334558 A/A

SNP: rs4588 G/T SNP: rs1801282 C/C SNP: rs73598374 C/C

Stress Response, Mood and Focus Insights

SNP: rs6323 T/T SNP: rs2298383 C/T SNP: rs4680 G/A

Brain Function Insights

SNP: rs3734398 T/T SNP: rs4880 A/G SNP: rs1800795 C/C SNP: rs1800629 G/A

Genetic Data Results

Sleep Insights

Sleep-related pathways include biological processes associated with circadian rhythm and sleep-related patterns. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with sleep-related traits. Scientific literature suggests that genetic variation may be associated with differences in certain sleep-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 sleep-related biological pathways.

Reference:

Ramar, Kannan et al. "Sleep is essential to health: an American Academy of Sleep Medicine position statement." Journal of Clinical Sleep Medicine vol. 17,10 (2021): 2115-2119. doi:10.5664/jcsm.9476

Your results

Gene: MTHFR — Methylenetetrahydrofolate reductase.

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

SNP: rs1801133 **Alleles: G/A** Possible homocysteine (Hcy) variation linked to sleep duration. [1-2]

The MTHFR gene encodes the enzyme Methylenetetrahydrofolate reductase, which is responsible for converting folate in its biologically active form. This active form is essential for various biochemical reactions, including the metabolism of homocysteine. Some studies suggest that the rs1801133 polymorphism, when present in one copy (heterozygosity), may be associated with reduced enzyme activity and differences in homocysteine levels.[1-2] Research has also explored links between homocysteine, sleep duration, and vitamin B12-related measures.[1-2] A qualified healthcare professional can help assess whether your diet, including folate and vitamin B12 intake, is appropriate for your individual needs.

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** Possible lower 25-hydroxyvitamin D levels and differences in sleep-related measures.[5] [3-5][6][7]

The gene GC encodes the vitamin D-binding protein, which is responsible for binding and transporting vitamin D and its metabolites in the bloodstream.[3-5] Some studies suggest that the rs4588 polymorphism, when present in one copy (heterozygosity), may be associated with lower 25-hydroxyvitamin D levels, as well as differences in certain sleep-related and stress-related measures.[6-7] 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** Somewhat lower vitamin D levels. [3][8-12][13-14]

The gene VDR encodes the Vitamin D Receptor, a protein critically involved in the actions of vitamin D in the body, acting as a nuclear receptor that binds to the biologically active form of vitamin D (1,25-dihydroxyvitamin D, also known as calcitriol).[3] Some studies suggest that the rs2228570 polymorphism (located in the FokI region of VDR), when present in two copies (homozygosity), may be associated with somewhat lower vitamin D levels.[8-12] Some studies have also explored whether somewhat lower vitamin D levels are associated with differences in certain sleep-related and mood-related measures.[13-14] A qualified healthcare professional can help assess whether your diet, including vitamin D intake, is appropriate for your individual needs.

Gene: PPARG — Peroxisome Proliferator-Activated Receptor Gamma.

Receptor that regulates fatty acid deposition and glucose metabolism.

SNP: rs1801282 **Alleles: C/C** Possible differences in the natural sleep cycle. [15][19-22]

The PPARG gene encodes the Peroxisome Proliferator-Activated Receptor Gamma, a protein that is primarily found in adipose tissue (fat cells) and plays a significant role in regulating lipid and glucose metabolism.[15][19-20] PPARγ has been described in the scientific literature as playing a role in circadian rhythm regulation, a process involved in the body's natural sleep-wake cycle.[21] Some studies have explored whether the polymorphism rs1801282, when present in two copies (homozygosity), is associated with differences in certain sleep-related measures.[22] A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs.

Gene: CYP1A2 — Cytochrome P450 1A2.

Enzyme member of the cytochrome P450 superfamily. It catalyzes many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids.

SNP: rs762551 **Alleles: A/A** Possible faster caffeine metabolism. [4][31][36-39]

The gene CYP1A2 encodes the cytochrome P450 1A2, an enzyme part of the cytochrome P450 superfamily, which are involved in the metabolism of many drugs and other compounds.[4][31] Some studies suggest that the polymorphism rs762551, when present in two copies (homozygosity), may be associated with faster caffeine metabolism, meaning caffeine may be processed more quickly in the body.[36-39]

Gene: ADA — Adenosine Deaminase.

Enzyme that prevents the accumulation of adenosine, that can interfere with normal cellular functions.

SNP: rs73598374 **Alleles: C/C** Possible lower melatonin-related measures and differences in sleep quality. [44-47]

The ADA gene encodes for adenosine deaminase, an enzyme crucial for the breakdown of adenosine, a nucleoside involved in several physiological processes. It is crucial for the regulation of the sleep-wake cycle, since adenosine levels in the brain increase during wakefulness and decrease during sleep.[44-46] Some studies suggest that the polymorphism rs73598374, when present in two copies (homozygosity), may be associated with lower melatonin-related measures and with differences in sleep quality.[47] A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs.

Gene: GSK3B Glycogen Synthase Kinase 3 Beta.

Enzyme involved in glycogen metabolism, cellular division, proliferation, motility and survival.

SNP: rs334558 **Alleles: A/A** Normal function. [44][48-49]

Your notes

Stress Response, Mood and Focus Insights

Stress response-, mood-, and focus-related pathways include biological processes influenced by both environmental factors and genetic variation. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with stress response, mood- related traits, and attention- related processes. Scientific literature suggests that genetic variation may be associated with differences in certain stress-related, mood-related, and focus-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 these biological pathways.

Reference:

Ellenbogen, Mark A et al. "Stress and selective attention: the interplay of mood, cortisol levels, and emotional information processing." Psychophysiology vol. 39,6 (2002): 723-32. doi:10.1111/1469-8986.3960723

Your results

Gene: MAOA — Monoamine oxidase A.

Enzyme involved in the regulation of neurotransmitters (such as serotonin, norepinephrine, and dopamine), essential for maintaining normal mood, emotions, and cognitive functions.

SNP: rs6323 **Alleles: T/T** Lower enzyme activity. [23-27][28-30]

The MAOA gene encodes for monoamine oxidase A, an enzyme found in the outer membrane of mitochondria that plays a role in the metabolism and degradation of biogenic amines. Some studies suggest that the polymorphism rs6323, when present in two copies (homozygosity), may be associated with reduced activity of the related enzyme and with differences in amine metabolism.[23-27] Some studies have also explored whether lower enzyme activity is associated with certain mood-related measures.[28-30]

Gene: ADORA2A — Adenosine A2a receptor.

Receptor protein activated by the binding of adenosine. It determines vasodilation, anti- inflammatory effect, neurotransmitter modulation, cardiovascular protection.

SNP: rs2298383 **Alleles: C/T** Possible disturbance in the natural sleep cycle and in focus-related measures. [4][31-34][35]

The gene ADORA2A encodes the adenosine A2A receptor, which binds adenosine, a neurotransmitter that acts as a central nervous system depressant, promoting relaxation. [4] [31-34] Some studies have explored whether the polymorphism rs2298383, when present in one copy (heterozygosity), is associated with differences in certain sleep-related and cognitive-related measures, including measures related to focus and decision-making.[35] A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs.

Gene: COMT — Catechol-O-methyltransferase.

Enzyme playing a role in the breakdown of catecholamines, such as dopamine, epinephrine, and norepinephrine, in the brain and other tissues.

SNP: rs4680 **Alleles: G/A** Normal function. [44][50]

Your notes

Brain Function Insights

Brain function–related pathways include biological processes associated with cognitive-related functions and age-related changes influenced by both environmental factors and genetic variation. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with brain function– related processes. Scientific literature suggests that genetic variation may be associated with differences in certain cognitive-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 brain-related biological pathways.

Reference:

Xia, Haishuo et al. "Understanding cognitive control in aging: A brain network perspective." Frontiers in Aging Neuroscience vol. 14, 1038756,2022. doi:10.3389/fnagi.2022.1038756

Your results

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. [15-18]

Gene: SOD2 — Superoxide Dismutase 2.

Enzyme found in the mitochondria. It is an important enzyme for reducing oxidative stress in cells.

SNP: rs4880 **Alleles: A/G** Possible more efficient SOD2-related mitochondrial transport and differences in cognitive-related measures over time. [31][40-43]

Gene: IL6 — Interleukin 6.

Signaling protein involved in immune response, inflammation, and various physiological process.

SNP: rs1800795 **Alleles: C/C** Normal Function. [51-56]

Gene: TNF — Tumor Necrosis Factor-alpha.

Signaling protein (cytokine) involved in immune response, inflammation, and cell death (apoptosis).

SNP: rs1800629 **Alleles: G/A** Possible association with certain cognitive-related measures. [57]

The TNF gene encodes for tumor necrosis factor (TNF), a multifunctional cytokine involved in the regulation of various biological processes, particularly in the immune system.TNFα is considered a marker of neuroinflammation. Some studies suggest that the polymorphism rs1800629, when present in one copy (heterozygosity), may be associated with a possible positive effect on certain cognitive-related measures.[57]

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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Disclaimers

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