



DNA Wellness Report:

Longevity and Immune Insights

For:

Alex Morgan

KIT ID: SAMPLE-DNA-0001

Report type: Wellness

Genetic variations: 22 SNPs

Date: 2026-09-24

Dear Alex Morgan

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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Introduction

GENETICS is important

DNA Wellness Report: Longevity and Immune Insights

Longevity- and immune-related pathways include biological processes influenced by both environmental factors and genetic variation. This DNA report analyzes **22 selected genetic variants (SNPs)** that have been studied in relation to biological pathways associated with cellular maintenance, oxidative stress response, detoxification, nutrient metabolism, and immune-related processes. Scientific literature suggests that genetic variation may be associated with differences in certain longevity-related and immune-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 these biological pathways. **This report is not intended to diagnose, treat, cure, or prevent any disease.**

Traits



**Longevity and
Antioxidant
Response Insights**



Immune Function



**Essential Nutrient
Metabolism**

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.

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

Longevity and Antioxidant Response Insights

Gene:	SNP:	Alleles:	Page
BPIFB4	rs2070325	A/A	5
MSTN	rs1805086	T/T	6
ADA	rs73598374	C/C	6
COMT	rs4680	G/A	7
IL6	rs1800795	G/C	7
SOD2	rs4880	G/G	8
FOXO3	rs2802292	G/T	9

Immune Function

Gene:	SNP:	Alleles:	Page
IL13	rs20541	A/G	10
IL13	rs1800925	C/T	11
IL4	rs2243250	C/T	12

Essential Nutrient Metabolism

Gene:	SNP:	Alleles:	Page
FUT2	rs492602	G/G	13

Genetic Data Results

Longevity and Antioxidant Response Insights

Longevity- and antioxidant-related pathways include biological processes involved in oxidative stress response, detoxification mechanisms, and cellular maintenance. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with these processes. Scientific literature suggests that genetic variation may be associated with differences in certain oxidative stress-related and cellular maintenance-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:

Krishnamurthy, Hari Krishnan et al. Inside the genome: understanding genetic influences on oxidative stress. *Frontiers in Genetics*, vol. 15, 1397352, 2024. doi:10.3389/fgene.2024.1397352

Your results

Gene:

BPIFB4

SNP:

rs2070325

Alleles:

A/A

Bactericidal/permeability-increasing fold-containing family B member 4.

Protein involved in host defense and immune responses.

No specific association established for this genotype and trait in the reviewed studies. [\[1-3\]](#)

The BPIFB4 gene encodes bactericidal/permeability-increasing fold-containing family B member 4, a protein involved in several biological processes.[\[1\]](#) Some studies have explored whether the rs2070325 A allele, when present in two copies (homozygosity), is associated with longevity-related traits. Although the G allele has been reported more frequently in some long-lived populations, no specific association with longevity has been established for individuals having two copies (homozygosity) of the A allele in the reviewed studies.[\[2-3\]](#) This genetic result does not determine individual lifespan, which is influenced by multiple genetic, lifestyle, and environmental factors. A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs.

Gene:

MSTN

SNP:

rs1805086

Alleles:

T/T

Myostatin.

Protein involved in regulating muscle growth and maintenance by helping control the amount of muscle tissue the body develops.

No established favorable longevity-related association for this genotype in the reviewed studies. [\[4\]](#)

The MSTN gene encodes myostatin, a protein involved in regulating muscle growth and helping maintain normal muscle tissue. No specific favorable longevity-related association has been established for individuals having two copies (homozygosity) of the T allele in the reviewed study.[\[4\]](#) This genetic result does not predict individual lifespan or aging outcomes. A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs.

Gene:

ADA

SNP:

rs73598374

Alleles:

C/C

Adenosine deaminase.

Enzyme involved in the conversion of adenosine to inosine and in the regulation of adenosine levels.

No established association with reduced ADA activity for this genotype in the reviewed studies. [\[5-7\]](#)

The ADA gene encodes adenosine deaminase, an enzyme involved in the breakdown of adenosine, a naturally occurring substance that helps regulate sleep and wakefulness.[\[5\]](#)[\[6\]](#) No specific association with reduced ADA activity has been established for individuals having two copies (homozygosity) of the C allele in the reviewed studies. This genetic result does not predict individual aging outcomes. A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs. [\[5-7\]](#)

Gene:

COMT

SNP:

rs4680

Alleles:

G/A

Catechol-O-methyltransferase.

Enzyme that helps process catechol compounds, including neurotransmitters such as dopamine, epinephrine, and norepinephrine.

No specific association established for this genotype and trait in the reviewed studies. [\[8\]](#)[\[9\]](#)

The COMT gene encodes catechol-O-methyltransferase, an enzyme that helps process catechol compounds, including neurotransmitters such as dopamine, epinephrine, and norepinephrine. The rs4680 A allele, when present in one copy (heterozygosity), is associated with intermediate COMT enzyme activity compared with the A/A and G/G genotypes.[\[8\]](#) No specific longevity-related association has been established for individuals having one copy (heterozygosity) of the A allele in the reviewed study.[\[9\]](#) This genetic result does not predict individual aging outcomes. A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs.

Gene:

IL6

SNP:

rs1800795

Alleles:

G/C

Interleukin 6.

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

Possible differences in IL-6 production. [\[10-13\]](#)

The IL6 gene encodes interleukin-6 (IL-6), a signaling protein involved in communication between immune cells. The rs1800795 G allele, when present in one copy (heterozygosity), has been associated with differences in IL-6 production and blood IL-6 levels, although findings vary across studies.[\[10\]](#)[\[11\]](#) Blood IL-6 levels have also been studied in relation to aging and longevity-related measures.[\[12\]](#)[\[13\]](#) This genetic result does not measure IL-6 levels or predict overall immune function, individual lifespan, or aging outcomes. A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs.

Gene:

SOD2

SNP:

rs4880

Alleles:

G/G

Superoxide Dismutase 2.

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

Possible lower SOD2 enzyme activity than in A-allele carriers. [\[2\]](#)[\[14\]](#)

The SOD2 gene encodes superoxide dismutase 2, a mitochondrial antioxidant enzyme that helps protect cells from reactive oxygen species.[\[2\]](#) One study in healthy young adults reported that the rs4880 G allele, when present in two copies (homozygosity), is associated with lower SOD2 enzyme activity measured in red blood cells compared with genotypes carrying the A allele.[\[14\]](#) This genetic result does not measure your enzyme activity or predict your overall antioxidant capacity, lifespan, or immune function. A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs.

Gene:

FOXO3

SNP:

rs2802292

Alleles:

G/T

Forkhead box protein O3.

Transcription factor that helps regulate genes involved in cellular stress responses, DNA repair, metabolism, and cell maintenance.

Possible longevity-related association. [\[15-18\]](#)

The FOXO3 gene encodes forkhead box O3, a transcription factor involved in cellular stress responses, DNA repair, metabolism, and cell maintenance. Variations in this gene have been associated with longevity.[\[15\]](#) Some studies have reported that the rs2802292 G allele, when present in one copy (heterozygosity), is associated with longevity in several populations.[\[16-18\]](#) The strength of this association varies across populations and may differ by sex.[\[17\]](#) This genetic association does not predict individual lifespan or aging outcomes. A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs.

Your notes

Immune Function

Immune-related biological pathways include signaling and regulatory processes involved in communication among cells. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with immune-related signaling and regulation. Scientific literature suggests that genetic variation may be associated with differences in certain immune-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 immune-related biological pathways.

Reference:

Arneth, Borros. Molecular Mechanisms of Immune Regulation: A Review. *Cells*, vol. 14, no. 4, 283, 2025. doi:10.3390/cells14040283

Your results

Gene:

IL13

SNP:

rs20541

Alleles:

A/G

Interleukin 13.

Signaling protein involved in communication between immune cells and in the regulation of immune responses.

Possible increased IL-13-related immune activity. [\[23-25\]](#)

The IL13 gene encodes interleukin-13 (IL-13), which is a cytokine involved in the immune system's response. Interleukins are signaling molecules that play a key role in communication between cells of the immune system. Some studies have reported that the rs20541 A allele, when present in one copy (heterozygosity), is associated with increased IL-13-related biological activity, including processes involved in IgE-related immune responses.[\[23-25\]](#) This genetic result alone does not indicate impaired immune function or determine an individual's immune response. A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs.

Gene:

IL13

SNP:

rs1800925

Alleles:

C/T

Interleukin 13.

Signaling protein involved in communication between immune cells and in the regulation of immune responses.

Possible differences in IL-13 regulation. [\[26\]](#)[\[27\]](#)

The IL13 gene encodes interleukin-13 (IL-13), a signaling protein involved in communication between immune cells and the regulation of immune responses. In the reviewed study, individuals having one copy (heterozygosity) of the T allele did not show the increased IL-13 secretion observed in individuals having two copies of the T allele.[\[26\]](#) IL-13 plays an important role in type 2 immune signaling.[\[27\]](#) This genetic result alone does not indicate impaired immune function or determine an individual's immune response. A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs.

Gene:

IL4

SNP:

rs2243250

Alleles:

C/T

Interleukin 4.

Signaling protein that plays a key role in the immune system and is part of the interleukin family of cytokines. It is involved in regulating antibody production, hematopoiesis, inflammation, and immune responses.

Possible differences in IgE-related immune responses in the context of lower vitamin D status. [\[28\]](#)

The IL4 gene encodes interleukin-4 (IL-4), a signaling protein involved in communication between immune cells and the regulation of immune responses. Some studies have reported that the rs2243250 C allele, when present in one copy (heterozygosity), may influence the relationship between vitamin D status and IgE-related immune responses, with low vitamin D status being associated with higher total IgE levels in C-allele carriers. [\[28\]](#) This genetic result does not indicate allergy or impaired immune function and does not measure your vitamin D or IgE levels. A qualified healthcare professional can help assess whether your overall diet and lifestyle are appropriate for your individual needs.

Your notes

Essential Nutrient Metabolism

Essential nutrient metabolism includes the biological processes involved in the digestion, absorption, transport, and use of vitamins, minerals, and other dietary components in the body. This section presents information about selected genetic variants that have been studied in relation to biological pathways associated with nutrient metabolism. Scientific literature suggests that genetic variation may be associated with differences in certain nutrient-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 nutrient-related biological pathways.

Reference:

Morris AL, Mohiuddin SS. Biochemistry, Nutrients. [Updated 2023 May 1]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK554545/>

Your results

Gene:

FUT2

SNP:

rs492602

Alleles:

G/G

Fucosyltransferase 2.

Enzyme involved in glycan fucosylation and secretor status, which may influence vitamin B12-related measures.

Possible tendency toward higher plasma vitamin B12 concentrations. [\[19-22\]](#)

The FUT2 gene encodes fucosyltransferase 2, an enzyme involved in processes that may influence vitamin B12-related measures. Some studies have reported that the rs492602 G allele, when present in two copies (homozygosity), is associated with higher vitamin B12-related measures.[\[19\]](#)[\[20\]](#) Vitamin B12 contributes to normal immune function,[\[21\]](#) and vitamin B12 status has also been studied in relation to oxidative balance.[\[22\]](#) This genetic association does not determine vitamin B12 status, immune function, or longevity. A qualified healthcare professional can help assess whether your overall diet is appropriate for your individual needs.

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

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Disclaimers

This DNA Wellness Report is intended only for general wellness, educational, and informational purposes. It provides information about selected genetic variants that may be associated with non-diagnostic wellness traits, such as general nutrition, fitness, lifestyle, and other wellness-related characteristics, based on scientific literature and internal interpretation methods available at the time the report is prepared.

This test and report have not been reviewed, cleared, approved, or authorized by the U.S. Food and Drug Administration, unless expressly stated otherwise in writing. This report is not intended to diagnose, treat, cure, mitigate, or prevent any disease or medical condition, and it should not be used as a substitute for professional medical advice, diagnosis, treatment, screening, or care.

This report does not provide medical genetic testing, clinical diagnosis, disease-risk assessment, carrier-status testing, pharmacogenetic or medication-response guidance, ancestry analysis, paternity or family-relationship testing, or interpretation of medically actionable variants. Do not use this report to start, stop, or change any medication, medical treatment, supplement program, diet, or exercise program without consulting a qualified healthcare professional.

The test analyzes selected genetic variants only. It does not analyze all variants in any gene, does not evaluate the entire genome, and may not detect genetic factors that are relevant to a trait or condition. Wellness traits are influenced by many factors, including genetics, diet, physical activity, sleep, environment, age, sex, health history, and other personal circumstances. A genetic association does not guarantee a particular trait, outcome, benefit, or response.

Scientific understanding of genetics continues to evolve. The interpretation of a genetic variant may change over time as new research becomes available, and different laboratories, databases, or interpretation methods may classify or explain genetic information differently. While reasonable efforts are made to provide accurate and current information, no test, analysis, database, or interpretation is error-free.

If this report includes questionnaire- based or self- reported information, those results depend on the accuracy and completeness of the information provided by the user. Questionnaire- based results are not independently verified and are processed using internal analytical methods informed by published references.

If laboratory analysis is performed by a CLIA-certified and/or CAP-accredited laboratory, that certification or accreditation relates to laboratory quality standards and laboratory operations. It does not mean that the FDA has reviewed, cleared, approved, or authorized this DNA Wellness Report, the wellness interpretations, or any related recommendations.

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