



DNA Wellness Report:

Longevity and Immune Insights

For:

Alex Morgan

KIT ID: SAMPLE-DNA-0001

Report type: Wellness

Genetic variations: 11 SNPs

Date: 2026-10-01

Dear Alex Morgan

Thank you for choosing our genetic analysis service.

We are pleased to provide you with personalized genetic insights based on selected variants identified in your DNA. This report is designed to provide educational and general wellness information about genetic variants and associations reported in scientific literature.

Our goal is to present your results in a clear and informative format to help you better understand selected genetic characteristics related to general wellness.

This report is intended for educational and general wellness purposes only. It 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.

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 genetic variation and environmental and lifestyle factors. This DNA report analyzes **11 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 these traits and biological 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 longevity- and immune-related biological pathways. **This report is not intended to diagnose, treat, cure, mitigate, or prevent any disease or medical condition.**

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, specifically single nucleotide polymorphisms (SNPs), analyzed within or in relation to specific genes.

Each result includes the gene name, gene function, SNP ID, genotype, represented by the combination of alleles detected at that genetic position, outcome, and recommendation.

The outcome summarizes the reported scientific association between the identified genotype and a general wellness-related trait or biological process.

The recommendation provides general wellness information based on this association and is not intended as medical advice.

The information provided in this report is based on published scientific research describing associations between selected genetic variants and biological traits or processes related to general wellness.

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Report summary

Longevity and Antioxidant Response Insights

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

Immune Function

Gene	SNP ID	Genotype	Page
IL13	rs20541	A/G	11
IL13	rs1800925	C/T	12
IL4	rs2243250	C/T	13

Essential Nutrient Metabolism

Gene	SNP ID	Genotype	Page
FUT2	rs492602	G/G	14

Genetic Data Results

Longevity and Antioxidant Response Insights

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

This report is provided for educational and general wellness purposes only. It is not intended to diagnose, treat, cure, mitigate, or prevent any disease or medical condition. The reported genetic associations do not determine an individual's lifespan, biological age, antioxidant status, or health outcomes and are not intended to diagnose or assess any disease or medical condition.

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

Results

Scientific Details

Gene:

BPIFB4

Gene function:

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

Protein involved in host defense and immune responses.

SNP:

rs2070325**Genotype and Outcome**

Genotype:

A/A

Associated outcome:

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

Recommendation

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.

Scientific Details

Gene:

MSTN

Gene function:

Myostatin.

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

SNP:

rs1805086

Genotype and Outcome

Genotype:

T/T

Associated outcome:

No established favorable longevity-related association for this genotype in the reviewed studies. ^[4]

Recommendation

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.

Scientific Details

Gene:

ADA

Gene function:

Adenosine deaminase.

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

SNP:

rs73598374

Genotype and Outcome

Genotype:

C/C

Associated outcome:

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

Recommendation

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. [\[5-7\]](#)

Scientific Details

Gene:

COMT

Gene function:

Catechol-O-methyltransferase.

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

SNP:

rs4680

Genotype and Outcome

Genotype:

G/A

Associated outcome:

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

Recommendation

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.

Scientific Details

Gene:

IL6

Gene function:

Interleukin 6.

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

SNP:

rs1800795

Genotype and Outcome

Genotype:

G/C

Associated outcome:

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

Recommendation

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.

Scientific Details

Gene:

SOD2

Gene function:

Superoxide Dismutase 2.

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

SNP:

rs4880

Genotype and Outcome

Genotype:

G/G

Associated outcome:

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

Recommendation

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.

Scientific Details

Gene:

FOXO3

Gene function:

Forkhead box protein O3.

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

SNP:

rs2802292

Genotype and Outcome

Genotype:

G/T

Associated outcome:

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

Recommendation

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.

Immune Function

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

This report is provided for educational and general wellness purposes only. It is not intended to diagnose, treat, cure, mitigate, or prevent any disease or medical condition. The reported genetic associations do not determine an individual's immune status or health outcomes and are not intended to diagnose or assess any disease or medical condition.

Reference:

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

Results

Scientific Details

Gene:

IL13

Gene function:

Interleukin 13.

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

SNP:

rs20541

Genotype and Outcome

Genotype:

A/G

Associated outcome:

Possible increased IL-13-related immune activity. [23-25]

Recommendation

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.

Scientific Details

Gene:

IL13

Gene function:

Interleukin 13.

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

SNP:

rs1800925

Genotype and Outcome

Genotype:

C/T

Associated outcome:

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

Recommendation

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.

Scientific Details

Gene:

IL4

Gene function:

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.

SNP:

rs2243250

Genotype and Outcome

Genotype:

C/T

Associated outcome:

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

Recommendation

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.

Essential Nutrient Metabolism

Essential nutrient metabolism includes the biological processes involved in the absorption, transport, metabolism, 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 nutrient-related biological pathways. Scientific literature suggests that genetic variation may be associated with differences in certain nutrient-related processes among individuals.

This report is provided for educational and general wellness purposes only. It is not intended to diagnose, treat, cure, mitigate, or prevent any disease or medical condition. The reported genetic associations do not determine an individual's nutritional status or indicate the presence of a nutrient deficiency and are not intended to diagnose or assess any disease or medical condition.

Reference:

Morris, Alyssa L. and Shamim S. Mohiuddin. "Biochemistry, Nutrients." StatPearls, StatPearls Publishing, 1 May 2023. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK554545/>

Results

Scientific Details

Gene:

FUT2

Gene function:

Fucosyltransferase 2.

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

SNP:

rs492602

Genotype and Outcome

Genotype:

G/G

Associated outcome:

Possible tendency toward higher plasma vitamin B12 concentrations.
[19-22]

Recommendation

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.

Scientific Glossary

Genetics uses specialized terminology. This glossary explains key terms used in your DNA Wellness Report in clear, accessible language. It is intended for educational purposes and is not exhaustive.

This report provides general wellness information and is not intended to diagnose, treat, cure, mitigate, or prevent any disease or medical condition. Genetic results represent only one of many factors that may influence wellness-related traits and should not be used to make medical decisions or as a substitute for professional medical advice. If you have questions about your health or the interpretation of genetic information, please consult a qualified healthcare professional.

Allele

An allele is one of the different versions of a DNA sequence found at a specific location in the genome. At most autosomal locations, an individual inherits one allele from each biological parent.

Chromosome

Chromosomes are structures made of DNA and proteins that organize and carry our genetic information. Humans typically have 23 pairs of chromosomes, for a total of 46.

DNA

DNA, or deoxyribonucleic acid, contains the genetic information used by our body to develop and function. It is made from four different nucleotides, represented by the letters A, C, G, and T.

Gene

A gene is a region of DNA containing information used to produce a functional product, such as a protein or functional RNA. Genes contribute to many biological processes, and their activity can also be influenced by regulatory DNA sequences and environmental factors.

Genome

The genome is the complete set of an individual's DNA, including genes as well as DNA sequences located outside genes.

Genetic Variant

A genetic variant is a difference in DNA sequence at a particular genomic location. Genetic variants can involve a single DNA base, a small insertion or deletion, or a larger segment of DNA. Most genetic variants are part of normal human genetic diversity.

Genotype

A genotype describes the allele or combination of alleles present at a particular genetic location. For example, at a variant with A and G alleles, possible diploid genotypes may include A/A, A/G, and G/G.

Heterozygous / Heterozygosity

Heterozygous means having two different alleles at a particular diploid genetic location. For example, an A/G genotype is heterozygous.

Homozygous / Homozygosity

Homozygous means having two identical alleles at a particular diploid genetic location. For example, A/A and G/G are homozygous genotypes.

Hemizygous / Hemizygosity

Hemizygous means having only one copy of a gene or genetic locus instead of the usual two copies found at most autosomal locations. This commonly occurs for genes located on the X chromosome in individuals who have only one X chromosome. In these cases, a single allele is present at that location rather than a pair of alleles.

Locus

A locus is a specific position or region in the genome where a gene or genetic variant is located.

Phenotype

A phenotype is an observable or measurable characteristic of an individual. Phenotypes can be influenced by genetic factors as well as diet, lifestyle, environment, age, and other biological factors.

Trait

A trait is a measurable or observable characteristic, such as height, nutrient-related measures, physical-performance characteristics, or sleep-related characteristics. Most wellness-related traits are influenced by multiple genetic and non-genetic factors.

Genetic Association

A genetic association is a statistical relationship observed between a genetic variant and a trait in a study population. An association does not necessarily mean that the genetic variant directly causes the trait, and associations may differ among populations or under different environmental conditions.

rsID

An rsID is a reference identifier beginning with "rs" assigned to a Reference SNP (RefSNP) record in the National Center for Biotechnology Information (NCBI) dbSNP database. For example, rs1801133 is an rsID.

SNP (Single-Nucleotide Polymorphism)

A SNP is a genetic variant involving a difference at a single DNA base position that occurs within a population. SNPs occur throughout the human genome. Many have no known functional effect, while others have been studied for possible associations with biological characteristics or traits.

Loss-of-Function Variant

A loss-of-function variant is a genetic variant that reduces or eliminates the expected function of a gene product. Its biological significance depends on the specific gene and variant, the number of copies present, and other genetic and environmental factors. A loss-of-function classification does not by itself indicate disease or disease risk.

Macronutrient

Macronutrients are nutrients used by the body in relatively large amounts. The primary macronutrients are carbohydrates, fats, and proteins, which provide energy and/or structural components needed for normal biological functions.

Micronutrient

Micronutrients are nutrients required by the body in relatively small amounts. They primarily include vitamins and minerals and contribute to many normal physiological processes.

Dietary Supplement

A dietary supplement is a product intended to supplement the diet and containing one or more dietary ingredients, such as vitamins, minerals, herbs or other botanicals, amino acids, or other dietary substances.

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 DNA Wellness Test and the wellness interpretations contained in this report have not been reviewed, cleared, approved, or authorized by the U.S. Food and Drug Administration (FDA). 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 as the sole basis for starting, stopping, or changing any medication, medical treatment, supplement program, diet, or exercise program. Consult a qualified healthcare professional before making medical decisions based on genetic information.

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

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