NUTRAHACKER

Complete Mutation Nutrition Report

From your imputed (expanded) DNA data · generated Nov 5, 2026

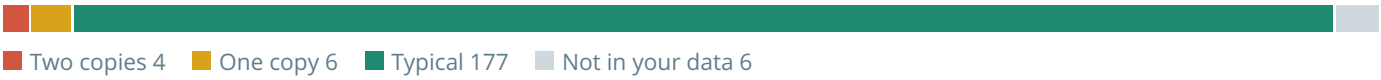
Customer ID: **sample**

Sample report: real panel content with made-up genotypes. It is not anyone's DNA.

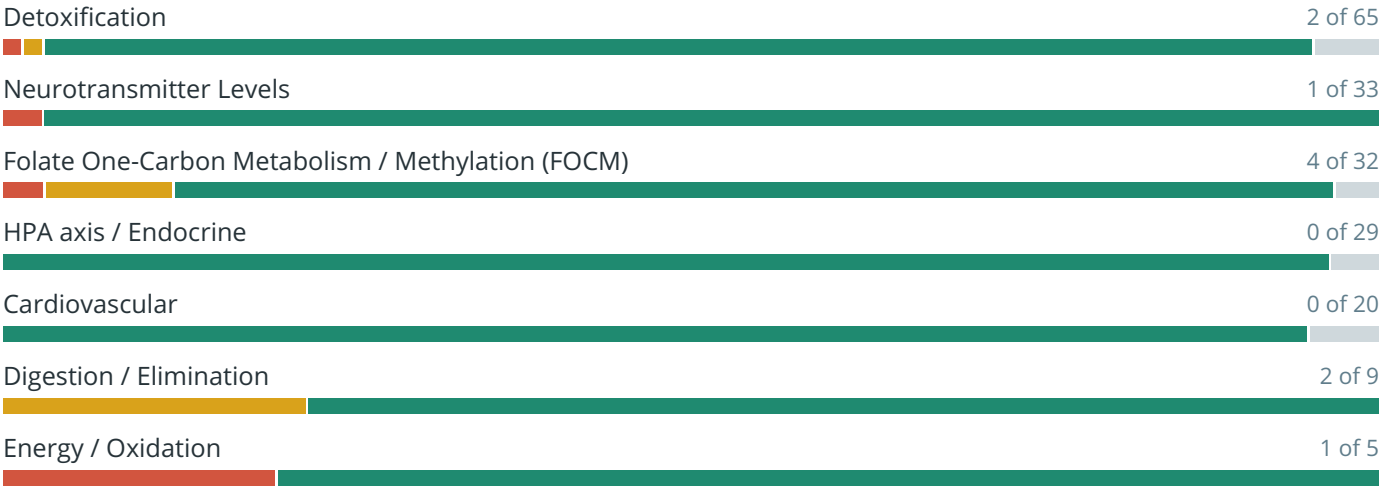
YOUR NUTRITION GENETICS

10 variants in 8 genes

193 SNPs checked across 7 areas: 4 with two copies, 6 with one, 177 typical, 6 not in your data.



Two copies 4 · One copy 6 · Typical 177 · Not in your data 6



What your variants point to

Every variant's suggestions merged and ranked by how many of your genes point to them. Within a gene, two copies count double and extra variants add a little; uncommon genotypes count a little more, very common ones a little less, and unusual calls a quarter. Discuss changes with your doctor, especially if you take medication.

Consider

Suggested by your variants

- **Manganese**
  2 genes: MTHFR, SOD2
- **Hydroxy B12 (hydroxycobalamin)**
  From COMT
- **Vitamin B6**
  2 genes: CBS, MTHFR
- **Cardamom**
  From CYP1A2
- **Diindolylmethane**
  From CYP1A2
- **NAC**
  2 genes: CYP1A2, GSTP1
- **Vitamin E in tocotrienol form**
  From SOD2
- **Cabbage**
  From CYP1A2
- **Choline**
  From MTHFD1
- **Glucarate**
  From CYP1A2

Induce with broccoli
From CYP1A2

Sulforaphane
From CYP1A2

Vitamin A
From BCMO1 (2 variants)

Ornithine
From MTHFR

Ribo-5-phosphate
From MTHFR

Rooibos
From MTHFR

Vitamin C
From MTHFR

L-methylfolate
From MTHFR (2 variants)

Vitamin B12
From MTHFR (2 variants)

Whey
From GSTP1

Potassium
From MTHFR

Riboflavin for high blood pressure
From MTHFR

Vitamin B3
From MTHFR

Be careful with
Your variants suggest limiting these

Alcohol
From SOD2

Methyl B12
From COMT

Noise (greater chance for hearing loss)
From SOD2

Curcumin
From CYP1A2

Folinic acid
From MTHFR (2 variants)

Vitamin E
From GSTP1

Cannabis
From COMT

Methyl donors
From COMT

Cumin
From CYP1A2

Folate
From MTHFR (2 variants)

Grapefruit
From CYP1A2

Detox & methylation pathway

Where your genes sit in the steps your body uses to clear toxins, hormones and drugs.

Variant found Typical Not in your data

1. Phase I: activation
CYP enzymes make toxins, drugs and hormones easier to process; the intermediates can be more reactive until Phase II finishes the job.

CYP1A1 CYP1A2 CYP1B1 CYP2A6 CYP2C9 CYP2D6 CYP2E1 CYP3A4

2. Heavy metals
Variants here are linked to greater sensitivity to mercury's effects.

CPOX4

3. Phase II: conjugation
Attaches a small molecule (glutathione, acetyl, sulfate, glucuronide, methyl) or neutralises quinones so the body can excrete them.

GSTP1 CYBA/GCLC NAT1 NAT2 SULT2A1 UGT1A1 COMT NQO1

4. Antioxidant defence
Neutralises the reactive oxygen produced along the way.
SOD2 SOD3 GPX1 GPX3

5. Methylation & one-carbon supply
Supplies the methyl groups and glutathione precursors that Phase II depends on.
MTHFR MTR MTRR CBS BHMT08 SHMT1 MTHFD1 MTHFD1L MTHFS DHFR FOLH1 FOLR3 GGH SLC19A1 PEMT CHDH

6. Other methylation-panel genes
Also on the methylation panel, outside the detox steps.
MAO-A MAO-B VDR ACAT1 ACAT2

By area

Each variant with what the gene does, what was found and what it points to.

Detoxification

2 variants · 60 typical · 3 not in your data (of 65)

CYP1A2 *A-164C*

rs762551

A ALLELE 1 · EXPECTED

What the gene does: Hydroxylation or dealkylation of xenobiotics, Phase I, metabolize E2 to 2-hydroxyestradiol

TT ALLELE 2 · VARIANT (YOUR GENOTYPE)

What this variant can mean: Slow to metabolize caffeine, Main liver pathway

1/2 HETEROZYGOUS · 1 COPY

One copy of the variant: usually a milder, partial effect.

2/2 HOMOZYGOUS · 2 COPIES YOUR RESULT

Two copies of the variant: usually a fuller, more consistent effect.

In gnomAD, about 45% of people have this genotype (common).

NUTRAHACKER NOTE Moderate signal

Consider: Induce with broccoli, Cabbage, Diindolylmethane, Glucarate, NAC, Cardamom, Sulforaphane
Be careful with: Curcumin, Cumin, Grapefruit

GSTP1 *I105V*

rs1695

G ALLELE 1 · EXPECTED

What the gene does: Conjugation toxins to glutathione

GA ALLELE 2 · VARIANT (YOUR GENOTYPE)

What this variant can mean: Persons having the alleles AA or AG had an increase in inflammatory interleukin-6 (IL-6) upon supplementing alpha-tocopherol (the most common form of Vitamin E in a North American diet) while those with GG saw a decrease.

1/2 HETEROZYGOUS · 1 COPY — YOUR RESULT

One copy of the variant: usually a milder, partial effect.

2/2 HOMOZYGOUS · 2 COPIES

Two copies of the variant: usually a fuller, more consistent effect.

NUTRAHACKER NOTE Single signal

Consider: NAC, Whey
Be careful with: Vitamin E

Typical in: CPOX4, CYBA/GCLC, CYP1A1, CYP1B1, CYP2A6, CYP2C9, CYP2D6, CYP2E1, CYP3A4, GPX1, GPX3, NAT1, NAT2, NQO1, SULT2A1, UGT1A1

Neurotransmitter Levels

1 variant · 32 typical (of 33)

COMT *V158M*

rs4680

G ALLELE 1 · EXPECTED

What the gene does: Degrades catecholamines, Phase II, inactivates hydroxy-estrogens

CC ALLELE 2 · VARIANT (YOUR GENOTYPE)

What this variant can mean: Slower breakdown dopamine, oestrogen, worrier, prone to anxiety, more sensitive to green tea

1/2 HETEROZYGOUS · 1 COPY

One copy of the variant: usually a milder, partial effect.

2/2 HOMOZYGOUS · 2 COPIES — YOUR RESULT

Two copies of the variant: usually a fuller, more consistent effect.

In gnomAD, about 26% of people have this genotype.

NUTRAHACKER NOTE Strong signal

Consider: Hydroxy B12 (hydroxycobalamin)
Be careful with: Methyl B12, Methyl donors, Cannabis

Typical in: BDNF, CHRNA5, DAOA, GAD1, GAD2, MAO-A, MAO-B, NTRK2, TH

Folate One-Carbon Metabolism / Methylation (FOCM)

4 variants · 27 typical · 1 not in your data (of 32)

CBS *C699T*

rs234706

G · ALLELE 1 · EXPECTED

What the gene does: Adds l-serine to homocysteine to produce l-cystathionine

GC · ALLELE 2 · VARIANT (YOUR GENOTYPE)

What this variant can mean: Increased responsiveness to homocysteine-lowering effects of folic acid. Marginally increased disposal of homocysteine.

1/2 · HETEROZYGOUS · 1 COPY YOUR RESULT

One copy of the variant: usually a milder, partial effect.

2/2 · HOMOZYGOUS · 2 COPIES

Two copies of the variant: usually a fuller, more consistent effect.

NUTRAHACKER NOTE Single signal

Consider: Vitamin B6

MTHFD1

rs2236225

G · ALLELE 1 · EXPECTED

What the gene does: Three distinct enzymatic activities related to folate

CC · ALLELE 2 · VARIANT (YOUR GENOTYPE)

What this variant can mean: Increased requirement for choline

1/2 · HETEROZYGOUS · 1 COPY

One copy of the variant: usually a milder, partial effect.

2/2 · HOMOZYGOUS · 2 COPIES YOUR RESULT

Two copies of the variant: usually a fuller, more consistent effect.

In gnomAD, about 31% of people have this genotype (common).

NUTRAHACKER NOTE Moderate signal

Consider: Choline

MTHFR *A1298C*

rs1801131

A ALLELE 1 · EXPECTED

What the gene does: Converts folic acid to 5-methyltetrahydrofolate

AC ALLELE 2 · VARIANT (YOUR GENOTYPE)

What this variant can mean: Low BH4, excess ammonia, low nitric oxide, does NOT lead to high homocysteine, however high superoxide

1/2 HETEROZYGOUS · 1 COPY — YOUR RESULT

One copy of the variant: usually a milder, partial effect.

2/2 HOMOZYGOUS · 2 COPIES

Two copies of the variant: usually a fuller, more consistent effect.

In gnomAD, about 42% of people have this genotype (common).

NUTRAHACKER NOTE Single signal

Consider: L-methylfolate, Vitamin B3, Potassium, Ornithine, Vitamin B6, Vitamin B12, Vitamin C, Rooibos, Manganese
Be careful with: Folinic acid, Folate

MTHFR *C677T*

rs1801133

C ALLELE 1 · EXPECTED

What the gene does: Converts folic acid to 5-methyltetrahydrofolate

CG ALLELE 2 · VARIANT (YOUR GENOTYPE)

What this variant can mean: When homozygous it's functioning at about 30% of normal, leads to high homocysteine, folate concentrations lower.

1/2 HETEROZYGOUS · 1 COPY — YOUR RESULT

One copy of the variant: usually a milder, partial effect.

2/2 HOMOZYGOUS · 2 COPIES

Two copies of the variant: usually a fuller, more consistent effect.

In gnomAD, about 43% of people have this genotype (common).

NUTRAHACKER NOTE Single signal

Consider: L-methylfolate, Vitamin B12, Riboflavin for high blood pressure, Ribo-5-phosphate
Be careful with: Folinic acid, Folate

Typical in: ACAT1, ACAT2, BHMT08, CHDH, DHFR, FOLH1, FOLR3, GGH, MTHFD1L, MTHFS, MTR, MTRR, PEMT, SLC19A1

HPA axis / Endocrine

0 variants · 28 typical · 1 not in your data (of 29)

No variants found in this area.
Typical in: ADIPOQ, CaSR, CLOCK, CNR1, ESR1, ESR2, G6PC2, GR, NR3C1, NR3C2, VDR

Cardiovascular

0 variants · 19 typical · 1 not in your data (of 20)

No variants found in this area.

Typical in: ALPL, APOB, CD36, CETP, COX2, CPT1, FADS1, FADS2, NOS3, PON1, USF1, VKORC1

Digestion / Elimination

2 variants · 7 typical (of 9)

BCMO1

rs12934922

A ALLELE 1 · EXPECTED

What the gene does: Key enzyme in beta-carotene metabolism to vitamin A.

AT ALLELE 2 · VARIANT (YOUR GENOTYPE)

What this variant can mean: poor converter

1/2 HETEROZYGOUS · 1 COPY — YOUR RESULT

One copy of the variant: usually a milder, partial effect.

2/2 HOMOZYGOUS · 2 COPIES

Two copies of the variant: usually a fuller, more consistent effect.

NUTRAHACKER NOTE Single signal

Consider: Vitamin A

BCMO1

rs7501331

C ALLELE 1 · EXPECTED

What the gene does: Key enzyme in beta-carotene metabolism to vitamin A.

CG ALLELE 2 · VARIANT (YOUR GENOTYPE)

What this variant can mean: poor converter

1/2 HETEROZYGOUS · 1 COPY — YOUR RESULT

One copy of the variant: usually a milder, partial effect.

2/2 HOMOZYGOUS · 2 COPIES

Two copies of the variant: usually a fuller, more consistent effect.

In gnomAD, about 34% of people have this genotype (common).

NUTRAHACKER NOTE Single signal

Consider: Vitamin A

Typical in: FUT2, IL-23R

Energy / Oxidation

1 variant · 4 typical (of 5)

SOD2 *Val16Ala*

rs4880

A ALLELE 1 · EXPECTED

What the gene does: Mitochondrial Superoxide Dismutase 2

TT ALLELE 2 · VARIANT (YOUR GENOTYPE)

What this variant can mean: Decreased gene function. Noise induced hearing loss, another SNP 'TT', rs4880 'GG' diplo-genotype (diplotype) was associated with more gray matter shrinkage in 76 individuals who report chronic high levels of alcohol consumption.

1/2 HETEROZYGOUS · 1 COPY

One copy of the variant: usually a milder, partial effect.

2/2 HOMOZYGOUS · 2 COPIES YOUR RESULT

Two copies of the variant: usually a fuller, more consistent effect.

In gnomAD, about 26% of people have this genotype.

NUTRAHACKER NOTE Strong signal

Consider: Manganese, Vitamin E in tocotrienol form
Be careful with: Alcohol, Noise (greater chance for hearing loss)

Typical in: SEC14L2, SOD3, TTPA

Balance

One bar per supplement or food. Right of centre: your genes suggest it. Left: your genes suggest limiting it. Each segment is one gene, coloured by its step in the detox pathway; longer means more of your genes, two copies or rarer genotypes.

Antioxidant defence · Methylation & one-carbon supply · Phase I: activation · Phase II: conjugation · Other genes

< be careful with consider >

Strong 3 or more of your genes, or 2 including a two-copy variant

Manganese
for: SOD2, MTHFR

NAC
for: CYP1A2, GSTP1

Moderate 2 of your genes, or one gene with two copies

Alcohol
against: SOD2

Cannabis
against: COMT

Hydroxy B12 (hydroxycobalamin)
for: COMT

Methyl B12
against: COMT

Methyl donors
against: COMT

Noise (greater chance for hearing loss)
against: SOD2

Vitamin E in tocotrienol form
for: SOD2

Vitamin B6
for: CBS, MTHFR

Cabbage
for: CYP1A2

Cardamom
for: CYP1A2

Choline
for: MTHFD1

Cumin
against: CYP1A2

Curcumin
against: CYP1A2

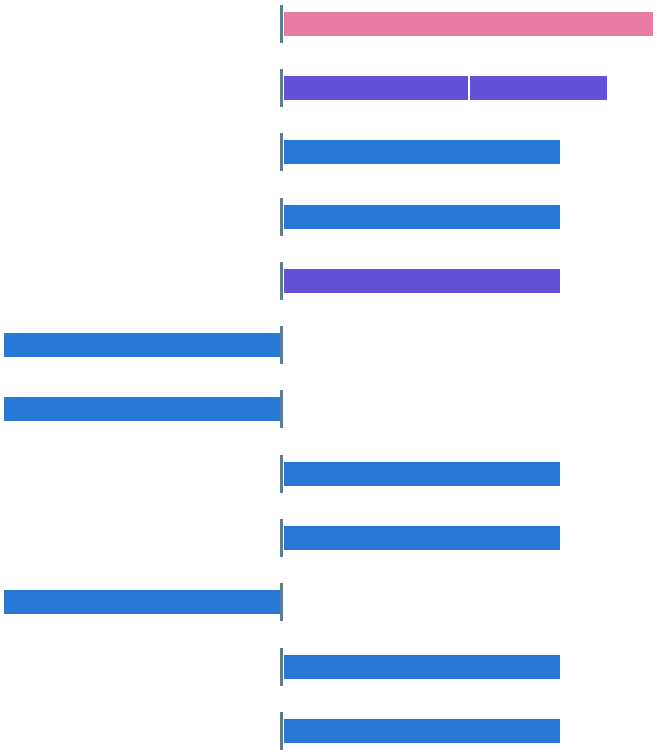
Diindolylmethane
for: CYP1A2

Glucarate
for: CYP1A2

Grapefruit
against: CYP1A2

Induce with broccoli
for: CYP1A2

Sulforaphane
for: CYP1A2



Single signal One gene, one copy

Folate
against: MTHFR

Folinic acid
against: MTHFR

L-methylfolate
for: MTHFR

Vitamin B12
for: MTHFR

Vitamin A
for: BCMO1

Vitamin E
against: GSTP1

Whey
for: GSTP1

Ornithine
for: MTHFR

Potassium
for: MTHFR

Ribo-5-phosphate
for: MTHFR

Riboflavin for high blood pressure
for: MTHFR

Rooibos
for: MTHFR

Vitamin B3
for: MTHFR

Vitamin C
for: MTHFR



Genes are one input among many: diet, medication, health conditions and lab results matter more for most decisions. For scientific and educational information only. It does not diagnose, treat or prevent any condition. Talk to your doctor before starting, stopping or changing any treatment.