

Nutrient Core Report

This test analyses how gene variants can affect food tolerance (and intolerance), appetite control and blood sugar balance, vitamin and mineral needs, detoxification ability, and susceptibility to inflammation and infection.

Nutrient Core will help you understand the fundamental genetic interactions with diet and lifestyle and indicate whether specific functions require further genetic testing. It includes genes that have been shown to affect:

- Food response - gluten (coeliac) and lactose intolerance
- Caffeine - sensitivity and metabolism
- Microbiome - diversity
- Vitamin need - vitamins A, B9 (folate), B12 (cobalamin), C, D and K
- Blood pressure - sodium-potassium balance & salt sensitive hypertension
- Detoxification - glutathione
- Metabolism - blood sugar control (insulin), appetite (leptin)
- Inflammation - specific (infection response) and systemic
- Circadian rhythm - early bird or night owl predisposition

Genes Included

Food Response: HLA-DQA1, HLA-DQB1 and LCT

Caffeine: CYP1A2 and ADORA2A

Microbiome: FUT2

Vitamins: BCO1, MTHFR, FUT2, TCN2, SLC23A1, COL1A1, GC, VDR and VKORC1

Blood Pressure: ACE and AGT

Detoxification: GSTM1

Metabolism: FADS1/2, FTO, TCF7L2, PGC1A and LEPR

Inflammation: TNF and IFNG

Circadian Rhythm: CLOCK and PER1

Vitamin D

Vitamin D is a fat soluble vitamin which is best known for its role in bone health. It promotes calcium absorption in the gut and maintains serum calcium and phosphate concentrations needed to mineralise bone. Vitamin D is also involved in muscle metabolism, neurological function, cardiovascular health and immunity.

It is called the 'sunshine vitamin' because the body can make its own vitamin D when skin is exposed to sunlight. Whilst sunlight is the best source, vitamin D is also present in a few foods and can be obtained from supplements. Once in the body, vitamin D is converted to calcidiol and subsequently to calcitriol, the biologically active form.

Vitamin D deficiency can result in lower bone density, rickets, osteomalacia and osteoporosis. Other symptoms of vitamin D deficiency include muscle weakness, difficulty thinking clearly and unexplained fatigue.

Too much vitamin D can cause high blood concentrations of calcium, leading to over-calcification of bones, soft tissues, heart and kidneys.

Genetic variances can significantly impact vitamin D availability and response. The GC gene controls the supply of vitamin D Binding Protein (VDPR) which is important for transporting vitamin D in the circulation, actin scavenging (muscle recovery) and fatty acid binding. Variances on the VDR (Vitamin D Receptor) gene impact sensitivity to vitamin D and mediate various aspects of the immune system, dopamine synthesis and bone formation.

Nutrition Advice

The best food sources of vitamin D are oily fish, such as mackerel, salmon, tuna and sardines. Smaller amounts can be found in beef, pork, chicken, cheese, egg yolks and mushrooms.

Your Results

GC	GG	 Poor Transporter. Decreased circulation of vitamin D which may cause symptoms of vitamin D insufficiency.
VDR	CC	 Good Sensitivity. Normal vitamin D receptor activity and response to vitamin D.
VDR	AA	 Good Sensitivity. Normal vitamin D receptor activity and response to vitamin D.

To understand more about how Vitamin D can impact health we recommend the Thyroid Balance and Nervous System reports.