VibrantWellness

NutriPro

Key Clinical Messages

What is NutriPro?

Genetic Predispositions + Actual Nutrient Values

The Vibrant NutriPro Panel is a nutrigenetic test that measures genetic predispositions that may be impacting nutrient status.

What is Nutrigenetics?

Nutrigenetics is the study of how genes determine the effects nutrients have on health and the body.

All individuals have a unique response to what they eat, called a nutrigenetic profile. This is based on their specific genes and the single nucleotide polymorphisms (SNPs) in their genome that relate to nutrient absorption and utilization, which can lead to nutrient insufficiency, deficiency, overload, or toxicity.

NutriPro includes:

- Nutrigenetic-relevant SNPs to assess the:
  - Scope of predispositions affecting nutrient absorption
  - Scope of predispositions affecting nutrient transport
  - Scope of predispositions affecting conversion of nutrients to forms absorbable by the body
  - Scope of predispositions affecting cellular uptake of nutrients
  - Intracellular and serum micronutrient levels
- Actual nutrient levels measured in both:
  - Serum - extracellular - most recent nutritional status
  - White Blood Cell (WBC) - intracellular – nutritional status over a longer window (~21-28 days)
  - Red Blood Cell (RBC) - longest nutritional status- over the lifespan of the RBC (~90-120 days)

Why Order NutriPro?

Understanding an individual's genetic predispositions allows personalization of diet and supplement recommendations to optimize nutrition. For example, if an individual carries a variant allele, it may indicate they need to consume more (or less) of the nutrient through food or supplementation and may require more frequent monitoring to assess nutrient levels.

Additionally, some genetic variants may indicate that a more bioavailable form of the nutrient be consumed to ensure adequate nutrient status.

The NutriPro panel will help you:

- **Establish** a baseline of genetics and current nutrient levels.
- **Determine genetic risk** or a predisposition for certain conditions.
- **Utilize personalized and effective treatment** for the patient with a diet and supplement protocol based on their genetic make-up and current nutrient levels.
- **Monitor** for optimized nutrient levels and biochemical function across all body systems.
- **Gain insight** into known genetic information to further investigate other biochemical pathways that may need additional support.

Which Patients Benefit from NutriPro?

Patients with the following health conditions and/or health goals all benefit from NutriPro:

- Optimized health for athletes
- Optimized health for expectant mothers/pre-conception
- Nutrient excesses
- Nutrient deficiencies
- Mood disorders
- Cardiometabolic disorders
- Nutrient malabsorption
- Anemia
- Bone-related disorders
- Neurological disorders
- Age-related disorders
- Autoimmune disease
- Polypharmacy
- Increased toxin exposure

Lab Methodology

Micronutrients are measured using Liquid Chromatography-Mass Spectrometry and Inductively Coupled Plasma-Mass Spectrometry (LC-MS/MS and ICP-MS). This state-of-the-art technology allows for the highest sensitivity of detection.

SNPs are measured using the Real Time-PCR (RT-PCR) technology platform. With 99.6% Sensitivity and 100% Specificity, RT-PCR provides highly accurate and reproducible results.

Which Tests Pair Well with NutriPro?

- **Gut Zoomer** - Tests for microbiome, inflammation, and digestion-related influences on nutrient status
- **Wheat Zoomer** – Assesses for increased intestinal permeability (leaky gut), celiac disease, and gluten & wheat sensitivity, all of which can impact nutrient status via malabsorption
- **Food Sensitivity** – Food sensitivities may be a sign of leaky gut and poor digestion which raise the risk of malnutrition
- **Total Tox Burden** – Poor nutrient status increases intestinal permeability and impairs detoxification pathways which impacts an individual's total toxic burden.

Reference Ranges

SNPs

Reference ranges have been established using a cohort of 1,000 apparently healthy individuals. The variant alleles are indicated with a + symbol and wild type alleles are indicated with a – symbol. The classification of red indicates a result that is outside the reference range and the classification of green denotes a result that is within the reference range.

NutriPro			⊕⊕ Homozygous Mutant			⊕⊖ Heterozygous			⊖⊖ Homozygous Wild
Vitamins and Minerals	SNP ID	Your Mutation	Current	Serum Previous	Reference	Current	Cellular Previous	Reference	
Vitamin D, 25-OH	rs10741657	⊕⊕G/G	39.1		30.0-108.0 (ng/mL)				
	rs12785878	⊕⊖G/T							
	rs2282679	⊕⊖C/A							
Vitamin D2 (Ergocalciferol)	rs10766197	⊖⊖A/A	*No nutrient tested*						
Vitamin D3 (Cholecalciferol)	rs10877012	⊕⊕G/G	0.7		0.4-1.8 (ng/mL)	104.1		25.9-246.6 (pg/MM WBC)	
Vitamin E (Alpha-tocopherol)	rs12272004	⊖⊖C/C	7.0		7.4-30.6 (mg/L)	212.8		18.4-1031.1 (pg/MM WBC)	
Vitamin K1 (Phylloquinone)	rs2108622	⊖⊖C/C	1.14		0.1-8.1 (ng/mL)	0.42		0.1-0.71 (pg/MM WBC)	
Vitamin K2 (Menaquinone-MK-7)	*No mutation tested*		0.99		0.1-5.19 (ng/mL)	0.03		0.1-0.89 (pg/MM WBC)	
Zinc, Zn 67	rs11126936	⊕⊖C/A	0.6		0.5-1.0 (mcg/mL)	8		4.0-15.0 (ng/MM WBC)	

Test Preparation

- **Collection:** Two (2) serum tubes, one (1) SST tube, four (4) EDTA tubes
- **Fasting:** Not required
- **Diet Restrictions:** None
- **Medication Restrictions:** None
- **Supplement restrictions:** None

Regulatory Statement:
This test has been laboratory developed and their performance characteristics determined by Vibrant America LLC, a CLIA-certified laboratory performing the test CLIA#:05D2078809. The test has not been cleared or approved by the U.S. Food and Drug Administration (FDA). Although FDA does not currently clear or approve laboratory-developed tests in the U.S., certification of the laboratory is required under CLIA to ensure the quality and validity of the tests.

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NutriPro Markers List

Vitamins

Nutrient	rs ID	Mutated Gene
Vitamin A (All trans Retinol)	rs11645428	BCMO1
	rs7501331	BCO1
	rs12934922	BCO1
	rs6564851	BCMO1
	rs1667255	TTR
Vitamin A (Beta carotene)	rs11645428	BCMO1
Vitamin B1 (Thiamine diphosphate)	rs17514104	SLC35F3
Vitamin B2 (Riboflavin 5-phosphate)	rs1799983	NOS3
	rs778479139	SLC52A3
Vitamin B3 (Nicotinic Acid)		
Vitamin B5 (Pantothenic Acid)		
Vitamin B6 (Pyridoxal 5-phosphate)		
Vitamin B7 (Biotin)	rs13078881	BTD
Vitamin B9 (Folate)	rs1801133	MTHFR
	rs1801131	MTHFR
Vitamin B12 (Cyanocobalamin)	rs602662	FUT2
	rs492602	FUT2
	rs526934	TCN1
Vitamin C (L-Ascorbic acid)	rs33972313	SLC23A1
	rs4257763	SLC23A1
	rs6596473	SLC23A1
	rs6139591	SLC23A2
Vitamin D.25-OH	rs12785878	NADSYN1
	rs10741657	CYP2R1
	rs2282679	GC
1.25-dihydroxyvitamin D	rs4588	VDR
Vitamin D2 (Ergocalciferol)	rs10766197	CYP2R1
Vitamin D3 (Cholecalciferol)	rs10877012	CYP27B1
Vitamin E (!-tocopherol)	rs12272004	APOA5
Vitamin K1 (Phylloquinone)Vit	rs2108622	CYP4F2
Vitamin K2 (Menaquinone-MK-7)		

Fatty Acids

Nutrient
DHA (Docosahexaenoic acid)
EPA (Eicosapentaenoic acid)
DPA (Docosapentaenoic acid)
AA (Arachidonic acid)
LA (Linoleic acid)
Omega-3 Total
Omega-6 Total
Omega-3 index

Minerals

Nutrient	rs ID	Mutated Gene
Sodium	rs2304478	SLC12A3
	rs7204044	SLC12A3
Potassium	rs4343	ACE
Calcium, Ca 44	rs4516035	VDR
Zinc, Zn 67	rs11126936	SLC30A3
Selenium, Se 76	rs11126936	GPX1
	rs3877899	SEPP1
Molybdenum	rs594445	MOCOS
Tetrahydrobiopterin	rs5030853	PAH
	rs8007267	GCH1
Iodine	rs225014	DIO2
Fluoride	rs4284505	ESR1
Phosphorus	rs4074995	RGS14
Iron, Fe 56	rs855791	TMPRSS6
	rs4820268	TMPRSS6
	rs3811647	TF
	rs1800562	HFE
	rs1799945	HFE
Manganese, MN 55	rs13107325	SLC39A8
Magnesium, Mg 24	rs4680	COMT
Copper, Cu 63	rs76151636	ATP7B
Chromium, Cr 53		
Myo-Inositol		

Amino Acids

Nutrient	rs ID	Mutated Gene
Coenzyme Q (Ubiquinone+Ubiquinol)	rs775607037	COQ4
	rs786204770	COQ4
Glutathione Oxidized	rs121909307	GSS
	rs1695	GSTP1
Methylmalonic acid (MMA)	rs291466	HICBH
	rs121918252	MUT
Choline	rs3733890	BHMT
	rs7946	PEMT
Phenylalanine	rs5030853	PAH

Amino Acids *(Nutrients Only)*

L- Cysteine	L-Arginine	L-Leucine
L-Asparagine	L-Citrulline	Free Carnitine
L-Glutamine	L-Isoleucine	
L-Serine	L-Valine	

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