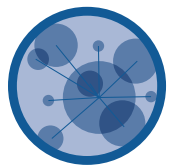


# Nutritional Testing

Effective tools for complex chronic illnesses



**Target**

*personalized*

patient recommendations

with Genova Diagnostics'

innovative line of nutritional tests

GENOVA  
DIAGNOSTICS®  


# Genova Diagnostics' line of nutritional tests provide insight through comprehensive panels and concise profiles for assessing one specific area of concern.



NutrEval is Genova's most comprehensive nutritional evaluation to identify specific imbalances of vitamins, nutrients, and essential co-factors. It achieves this by combining analysis of organic acids, amino acids, essential fatty acids, oxidative stress and elemental markers.



Metabolomix+ is a nutritional evaluation that includes key organic acids and amino acids to evaluate the functional need for antioxidants, B-vitamins, minerals, digestive support, and amino acids. Metabolomix+ is a non-invasive test that requires no blood draw.

## Our most comprehensive nutritional diagnostics provide a framework of core nutrients in 6 key areas:



Biomarkers Reported	NE PLASMA* #3001	NE FMV* #3000	META+* #3200	Biomarkers Reported	NE PLASMA* #3001	NE FMV* #3000	META+* #3200
<b>ORGANIC ACIDS</b>							
<b>Malabsorption &amp; Dysbiosis Markers</b>				<b>Vitamin Markers</b>			
<b>Malabsorption Markers</b>				<b>Branched-Chain Catabolites (B1, B2, B3, ALA)</b>			
Indoleacetic Acid	.	.	.	α-Ketoadipic Acid	.	.	.
Phenylacetic Acid	.	.	.	α-Ketoisovaleric Acid	.	.	.
<b>Dysbiosis Markers</b>				α-Ketoisocaproic Acid			
Dihydroxyphenylpropionic Acid	.	.	.	α-Keto-β-Methylvaleric Acid	.	.	.
3-Hydroxypropionic Acid	.	.	.	Glutaric Acid	.	.	.
4-Hydroxyphenylpyruvic Acid	.	.	.	Isovalerylglycine	.	.	.
Benzoic Acid	.	.	.	<b>Methylation Markers (Folate, B12)</b>			
Hippuric Acid	.	.	.	Formiminoglutamic Acid (FIGlu)	.	.	.
<b>Yeast/Fungal Dysbiosis Markers</b>				Methylmalonic Acid			
D-Arabinitol	.	.	.	<b>Biotin Markers</b>			
Citramalic Acid	.	.	.	3-Hydroxypropionic Acid	.	.	.
Tartaric Acid	.	.	.	3-Hydroxyisovaleric Acid	.	.	.
<b>Cellular Energy &amp; Mitochondrial Markers</b>				<b>Neurotransmitter Metabolites</b>			
<b>Fatty Acid Metabolism</b>				<b>Kynurenine Markers (Vitamin B6)</b>			
Adipic Acid	.	.	.	Kynurenic Acid	.	.	.
Suberic Acid	.	.	.	Quinolinic Acid	.	.	.
<b>Carbohydrate Metabolism</b>				Kynurenic / Quinolinic Ratio			
Pyruvic Acid	.	.	.	Xanthurenic Acid	.	.	.
Lactic Acid	.	.	.	<b>Catecholamine Markers</b>			
α-Hydroxybutyric Acid	.	.	.	Homovanillic Acid	.	.	.
β-OH-Butyric Acid	.	.	.	Vanilmandelic Acid	.	.	.
β-OH-β-Methylglutaric Acid	.	.	.	3-Methyl-4-OH-phenylglycol	.	.	.
<b>Energy Metabolism</b>				<b>Serotonin Markers</b>			
Citric Acid	.	.	.	5-OH-indoleacetic Acid	.	.	.
cis-Aconitic Acid	.	.	.	<b>Toxin &amp; Detoxification Markers</b>			
Isocitric Acid	.	.	.	Pyroglutamic Acid	.	.	.
α-Ketoglutaric Acid	.	.	.	α-Ketophenylacetic Acid	.	.	.
Succinic Acid	.	.	.	α-Hydroxyisobutyric Acid	.	.	.
Malic Acid	.	.	.	Orotic Acid	.	.	.
				<b>Oxalate Markers</b>			
				Glyceric Acid	.	.	.
				Glycolic Acid	.	.	.
				Oxalic Acid	.	.	.
				<b>Creatinine Concentration</b>			
				Creatinine	.	.	.

\*Not Available in New York

Biomarkers Reported	NE PLASMA* #3001	NE FMV* #3000	META+* #3200	Biomarkers Reported	NE PLASMA* #3001	NE FMV* #3000	META+* #3200
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## AMINO ACIDS

Nutritionally Essential Amino Acids				Intermediary Metabolites			
Arginine	.	.	.	<b>B-Vitamin Markers</b>			
Histidine	.	.	.	$\alpha$ -Aminoadipic Acid	.	.	.
Isoleucine	.	.	.	$\alpha$ -Amino-N-Butyric Acid	.	.	.
Leucine	.	.	.	$\beta$ -Aminoisobutyric Acid	.	.	.
Lysine	.	.	.	Cystathionine	.	.	.
Methionine	.	.	.	<b>Urea Cycle Markers</b>			
Phenylalanine	.	.	.	Citrulline	.	.	.
Taurine	.	.	.	Ornithine	.	.	.
Threonine	.	.	.	Urea	.	.	.
Tryptophan	.	.	.	<b>Glycine/Serine Metabolites</b>			
Valine	.	.	.	Glycine	.	.	.
<b>Nonessential Protein Amino Acids</b>				Serine	.	.	.
Alanine	.	.	.	Ethanolamine	.	.	.
Asparagine	.	.	.	Phosphoethanolamine	.	.	.
Aspartic Acid	.	.	.	Phosphoserine	.	.	.
Cysteine	.	.	.	Sarcosine	.	.	.
Cystine		.	.	<b>Dietary Peptide Related Markers</b>			
$\gamma$ -Aminobutyric Acid	.	.	.	Anserine		.	.
Glutamic Acid	.	.	.	Carnosine		.	.
Glutamine	.	.	.	1-Methylhistidine	.	.	.
Proline	.	.	.	3-Methylhistidine	.	.	.
Tyrosine	.	.	.	$\beta$ -Alanine	.	.	.

## OXIDATIVE STRESS

Glutathione	.	.	
Coenzyme Q10	.	.	
Lipid Peroxides	.	.	.
8-Hydroxy-2'-deoxyguanosine	.	.	.

Biomarkers Reported	NE PLASMA* #3001	NE FMV* #3000	META+* #3200
<b>FATTY ACIDS</b>			
<b>Omega-3</b>			
α-Linolenic Acid (ALA)	•	•	+
Eicosapentaenoic Acid (EPA)	•	•	+
Docosapentaenoic Acid (DPA)	•	•	+
Docosahexaenoic Acid (DHA)	•	•	+
% Omega-3s	•	•	+
<b>Omega-9</b>			
Oleic Acid	•	•	+
Nervonic Acid	•	•	+
% Omega-9s	•	•	+
<b>Saturated</b>			
Palmitic Acid	•	•	+
Stearic Acid	•	•	+
Arachidic Acid	•	•	+
Behenic Acid	•	•	+
Tricosanoic Acid	•	•	+
Lignoceric Acid	•	•	+
Pentadecanoic Acid	•	•	+
Margaric Acid	•	•	+
% Saturated Fats	•	•	+
<b>Omega-6</b>			
Linoleic Acid (LA)	•	•	+
γ-Linolenic Acid (GLA)	•	•	+
Dihomo-γ-Linolenic Acid (DGLA)	•	•	+
Arachidonic Acid (AA)	•	•	+
Docosatetraenoic Acid (DTA)	•	•	+
Eicosadienoic Acid	•	•	+
% Omega-6s	•	•	+
<b>Monounsaturated</b>			
<b>Omega-7</b>			
Palmitoleic Acid	•	•	+
Vaccenic Acid	•	•	+
<b>Trans</b>			
Elaidic Acid	•	•	+
<b>Delta-6-Desaturase Activity</b>			
Linoleic / DGLA	•	•	+
<b>Cardiovascular Risk</b>			
Omega-6s/ Omega-3s	•	•	+
AA/EPA	•	•	+
Omega-3 Index	•	•	+

Biomarkers Reported	NE PLASMA* #3001	NE FMV* #3000	META+* #3200
<b>ELEMENTS</b>			
<b>Nutrient and Toxic Elements</b>			
<b>Nutrient Elements</b>			
Chromium			+
Cobalt			+
Copper	•	•	+
Iron			+
Lithium			+
Manganese	•	•	+
Molybdenum			+
Selenium	•	•	+
Strontium			+
Vanadium			+
Zinc	•	•	+
Calcium			+
Magnesium	•	•	+
Potassium	•	•	+
Sulfur			+
<b>Toxic Elements</b>			
Lead	•	•	+
Mercury	•	•	+
Aluminum			+
Antimony			+
Arsenic	•	•	+
Barium			+
Bismuth			+
Cadmium	•	•	+
Cesium			+
Gadolinium			+
Gallium			+
Nickel			+
Niobium			+
Platinum			+
Rubidium			+
Thallium			+
Thorium			+
Tin			+
Tungsten			+
Uranium			+
<b>ADD-ONS</b>			
SNP - APO E (C112R + R158C)	+	+	+
SNP - MTHFR Combined (A1298C + C677T)	+	+	+
SNP - TNFA	+	+	+
SNP - COMT (V158M)	+	+	+
Vitamin D	+	+	

# Genova's standard-setting report design

Our report synthesizes complex biochemistry into actionable treatment options. Our rigorous testing analyzes a wide array of biomarkers and combines those results using an algorithm that considers the complex interrelation of a patient's individual chemistry.

The report combines the results into specific recommendations personalized for each patient.

## Our nutrition reports feature:

- Synthesized and actionable areas of high need for supplementation
- Dynamic biochemical pathway charts for clearer understanding
- Suggested personalized supplement schedule which provides personalized recommendations for antioxidants, B-vitamins, minerals, essential fatty acids, digestive support, and amino acids
- Easy-to-use "Interpretation At-A-Glance" that provides patients valuable information about the function of individual nutrients, causes and complications of their deficiencies, and their dietary sources



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