

Functional Genomic Analysis Report

The dashboard is organized into several horizontal sections, each with a plus icon for expansion:

- MTHFR, Folate, and Methylation (building)**: Yellow background, contains icons for a clock, a document, and a flask.
- Nutrient Metabolism**: Yellow background, contains icons for a clock, a document, and a flask.
- mTOR, Phase I - CYP, PON1**: White background, contains icons for a clock, a document, and a flask.
- Fats, Carbs, Proteins, Vit A & Vit D, Neurotransmitters and BH4, Mitochondria Function, Circulation, Muscle, and Collagen, SHBG**: Light green background, contains icons for a clock, a document, and a flask.
- Phase III Detox, Autophagy, Urea Cycle, Phase II Sulfation, Phase II Glucuronidation, Phase II Acetylation, Phase II Glutathione Conjugation, Phase II Methylation (Detox)**: Light green background, contains icons for a clock, a document, and a flask.
- Nrf2 Keap1, NAD+ NADPH, Glutathione, SOD and Catalase, Sirtuins, FOXO**: Light green background, contains icons for a clock, a document, and a flask.
- Fenton Reaction, NOS Uncoupling, Glutamate, Food Gut Histamine Oxalates, Heme Pathway & Sulfites, NOX, Mast Cells, and EMF Sensitivity**: Light green background, contains icons for a clock, a document, and a flask.

Ethylmalonate	1.1	—	Genova Diagnostics	
<i>Last answered on: 9/2/2021</i>				
Pyruvate		—	Genova Diagnostics	
<i>Last answered on: 9/2/2021</i>				
L-Lactate	4.2	—	Genova Diagnostics	
<i>Last answered on: 9/2/2021</i>				
β-Hydroxybutyrate		—	Genova Diagnostics	
<i>Last answered on: 9/2/2021</i>				
Citrate	209	—	Genova Diagnostics	
<i>Last answered on: 9/2/2021</i>				
Cis-Aconitate	28	—	Genova Diagnostics	
<i>Last answered on: 9/2/2021</i>				
Isocitrate	39	—	Genova Diagnostics	
<i>Last answered on: 9/2/2021</i>				

SAMPLE ANALYZED DATA

SNP Summary: Fenton Reaction

Gene	Evidence	Overall
Copper Transporters		
? SLC31A1	—	+2
? SLC31A2	—	+0
Ceruloplasmin		
? CP	+0	+0
Iron Transporters		
? SLC48A1	—	+0
? SLC11A2	+0	+1
SOD1		
? SOD1	-1	+0
Beta-Carotene		
? BCMO1	+0	+2
Iron Absorption		
? HFE	+0	+2
? FTL	+0	+0
? ACO1	—	+0
? TFR2	+0	+1
? TF	+0	+0
? TMPRSS6	+1	+1
NADPH		
? G6PD	+0	+0
? PGD	—	+0
? ME1	—	+0
? IDH1	+0	+0
? TALDO1	+0	+0
Hydrogen Peroxide		
? GPX2	+1	+0
? GPX3	+1	+0
? GPX4	-2	+0
? GPX5	—	+0
? GPX6	—	+1
? GPX7	—	+2
? CAT	+0	+0
? PRDX1	+0	+2
Copper Utilization/Transport		
? ATOX1	—	+0
? ATP7A	+0	+0
? ATP7B	-1	+0
Ferroportin		
? SLC40A1	-3	+0
HMOX		
? HMOX1	+0	+0
? HMOX2	+0	+0

SNP Summary

Click on an Enzyme in the list to view detailed SNP information in this pane.

Clicking on a second Enzyme while viewing one will switch SNP information displayed.

Significant SNPs		
BCMO1 A379V (rs7501331) ?	1	CT 34.3%
BCMO1 R267S (rs12934922)	1	AT 48.6%
BCMO1 (rs4889294)		TT 31.6%
BCMO1 (rs11645428)		GG 44%
BCMO1 (rs119478057)		CC 99.5%
Research & Informational SNPs		
BCMO1 (rs75397794)		TT 96.1%
BCMO1 (rs149697391)		CC 99.8%
BCMO1 (rs78857556)		AA 96.3%
BCMO1 (rs117523015)		AA 97.6%
BCMO1 (rs8046134)		GG 59.9%
BCMO1 (rs11865869)	1	AG 34.3%
BCMO1 (rs11643312)		GG 46.8%
BCMO1 (rs199834539)		CC 100%
BCMO1 (rs755750511)		AA 99.9%
BCMO1 (rs141781255)		GG 98.6%
BCMO1 (rs766086270)		GG 100%
BCMO1 (rs201946028)		CC 100%
BCMO1 (rs7188650)		TT 58.7%
BCMO1 (rs62044256)		CC 94.9%
BCMO1 (rs199858016)		GG 100%
BCMO1 (rs3803651)		AA 58.4%
BCMO1 (rs9924126)		AA 34.3%
BCMO1 (rs117546625)		AA 93.6%
BCMO1 (rs118072436)		CC 91.5%
BCMO1 (rs143238313)		CC 98.2%

Beta-carotene is the natural molecule. Vitamin A metabolism is important for vital processes such as vision, embryonic development, and skin protection. Polymorphisms in this gene can affect serum retinol concentration.

The most significant SNPs are BCMO1 A379V rs7501331, BCMO1 R267S rs12934922, and BCMO1 rs4889294

Research has found that double mutations in both BCMO1 A379V rs7501331 and BCMO1 R267S rs12934922 can cause a substantial reduction in the conversion of beta-carotene into retinol I in Females.