

Organic Acid Test (OAT) markers

Marker	Low	High	12/15/2010	4/6/2011	8/22/2011	1/12/2012	8/23/2012
Yeast and Fungal Markers							
Citramalic	0.11	2	1.1	1.4	0.85	0.73	0.47
5-Hydroxymethyl-2-furoic	0	18	13	24 H	8	1.9	0.54
3-Oxoglutaric	0	0.11	1.8 H	0.33 H	0	0.18 H	0
Furan-2,5-dicarboxylic	0	13	35 H	23 H	9	4.1	1.6
Furancarboxylglycine	0	2.3	0.17	0.16	1.2	0.04	0.06
Tartaric	0	5.3	1.3	6.6 H	0.3	1	1.6
Arabinose	0	20	51 H	89 H	114 H	31 H	34 H
Carboxycitric	0	20	3.9	5.3	8.6	3.6	0.55
Tricarballic	0	0.58					0.17
Total out of range:			3	5	1	1	1
Malabsorption & Bacterial Markers							
2-Hydroxyphenylacetic	0.03	0.47	1.7 H	0.39	0.35	0.3	0.32
4-Hydroxyphenylacetic	0	18	10	10	22 H	5.3	6.3
4-Hydroxybenzoic	0.01	0.73	1.7 H	0.43	0.42	0.5	0.26
4-Hydroxyhippuric	0	14	11	4.1	5.3	4.9	1.8
Hippuric	0	241	300 H	610 H	261 H	270 H	394 H
3-Indoleacetic	0	6.8	2.6	1.8	1.9	0.93	4.2
Succinic	0	5.3	19 H	4.9	7.6 H	10 H	10 H
HPHPA (clostridia marker)	0	102	87	109 H	141 H	37	18
4-Cresol (C. difficile)	0	39					0
DHPPA (beneficial bacteria)	0	0.23	0.06	0.1	0.1	0.16	0.09
Total out of range:			4	2	4	2	2
Oxalate Metabolites							
Glyceric	0.21	4.9	6 H	3	4	4.9	1.8
Glycolic	18	81	31	41	66	68	41
Oxalic	8.9	67	85 H	118 H	115 H	100 H	233 H
Total out of range:			1	1	1	1	1
Glycolytic Cycle Metabolites							
Lactic	0.74	19	9.3	15	5	20 H	12
Pyruvic	0.28	6.7	3.8	2.7	1.9	0.91	0.65
2-Hydroxybutyric	0	1.2	0.56	0.5	0.85	0.58	1.2
Total out of range:						1	
Krebs Cycle Metabolites							
Succinic	0	5.3	19 H	4.9	7.6 H	10 H	10 H
Fumaric	0	0.49	0.44	0.21	0.26	0.15	0.44
Malic	0	1.1	1.3 H	0.71	0.37	0.55	0.11
2-Oxoglutaric	0	18	1.6	4.9	14	2.2	3.4
Aconitic	4.1	23	14	11	19	10	8.4
Citric	2.2	260	224	99	152	145	123
Total out of range:			2		1	1	1
Neurotransmitter Metabolites							
Homovanillic (HVA)	0.39	2.2	1.9	1.7	1.6	2.3 H	1.1
Vanillylmandelic (VMA)	0.53	2.2	1.1	1.7	1.9	1.3	0.85
HVA/VMA Ratio	0.32	1.4	0.66	N/A	0.82	1.8 H	1.3
5-Hydroxyindoleacetic (5-HIAA)	0	2.9	0.47	0.66	0.72	0.35	1
Quinolinic	0.5	2.4	9.2 H	7.4 H	8.7 H	5.4 H	2.1
Kynurenic	0.12	1.8	1.9 H	4.7 H	1.5	1.1	0.72
Quinolinic/5-HIAA Ratio	0	2.5	20 H	11 H	12 H	15 H	2
Quinolinic/Kynurenic Ratio	0.22	3	4.9 H	N/A	12 H		NA
Total out of range:			4	3	3	4	0

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Pyrimidine Metabolites							
Uracil	0	6.9	4.3	3.3	5.3	3.5	5.8
Thymine	0	0.36	0.17	0.11	0.21	0.11	0.09
Total out of range:							
Ketone and Fatty Acid Oxidation							
3-Hydroxybutyric	0	1.9	1.7	0.71	1.7	1.1	1.9
Acetoacetic	0	10	0	1.1	0.49	6.4	0.98
4-Hydroxybutyric	0	4.3	0.22	0.91	0.49	0.96	2.5
Ethylmalonic	0.13	2.7	1.6	1.5	2.5	1.3	2
Methylsuccinic	0	2.3	1.8	1.6	3.5 H	1	1.3
Adipic	0	2.9	8.3 H	1.5	5.5 H	1	1.8
Suberic	0	1.9	3.1 H	4 H	4.7 H	2.7 H	0.49
Sebacic	0	0.14	0.36 H	0.11	0.11	0.07	
Total out of range:			3	1	3	1	
Nutritional Markers							
Methylmalonic (B12)	0	2.3	1.3	0.88	2	0.89	0.49
Pyridoxic (B6)	0	26	11	31 H	4.1	9.1	0.94
Pantothenic (B5)	0	5.4	35 H	185 H	16 H	15 H	2.2
Glutaric (B2 Riboflavin)	0	0.43	1.5 H	0.56 H	0.7 H	0.82 H	0.55
Ascorbic (Vitamin C)	10	200	2676 H	8761 H	2.2 L	1225 H	779 H
3-Hydroxy-3-ethylglutaric (Q10)	0	26	10	10	22	7.2	13
N-Acetylcysteine	0	0.13	0.1	0.4 H	0.07	0.03	0
Methylcitric (Biotin/Vitamin H)	0.15	1.7	0.73	0.57	1.1	0.65	0.97
Total out of range:			3	5	3	3	1
Indicators of Detoxification							
Pyroglutamic	5.7	25	23	24	30 H	10	24
Orotic	0	0.46	0.33	0.26	0.48 H	0.32	0.31
2-Hydroxyhippuric	0	0.86	0.84	0.78	0.5	0.36	0.53
Total out of range:					2		
Amino Acid Metabolites							
2-Hydroxyisovaleric	0	0.41	0	0	0	0	0
2-Oxoisovaleric	0	1.5	0	0	0	0.59	0
3-Methyl-2-oxovaleric	0	0.56	0.22	0	0	0.13	0.19
2-Hydroxyisocaproic	0	0.39	0.04	0.06	0.13	0.03	0.01
2-Oxoisocaproic	0	0.34	0.04	0.06	0	0.02	0
2-Oxo-4-methiobutyric	0	0.14	0.05	0.09	0.02	0.11	0.05
Mandelic	0	0.09	0	0.12 H	0.28 H	0	0
Phenyllactic	0	0.1	0.03	0.08	0.06	0.02	0.01
Phenylpyruvic	0.02	1.4	0.25	0.79	0.16	0.37	0.44
Homogentisic	0	0.23	0.05	0.11	0.04	0.3	0.02
4-Hydroxyphenyllactic	0	0.62	0.38	0.5	0.42	0.26	0.21
N-Acetylaspartic	0	2.5	2	0.42	0.74	0.37	1.7
Malonic	0	9.9	0	4.3	0	1.3	7.4
3-Methylglutaric	0.02	0.38	0.43 H	0.3	0.66 H	0.31	0.3
3-Hydroxyglutaric	0	4.6					0
3-Methylglutaconic	0.38	2					1
Total out of range:			1	1	1		
Bone Metabolites							
Phosphoric	332	5040	8519 H	7877 H	12466 H	2482	1322
Total out of range:			1	1	1		