Requisition #:

Patient Name:

Patient Age:

Patient Sex:

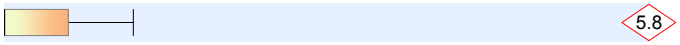
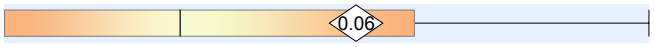
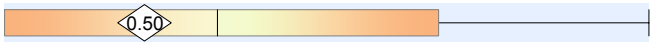
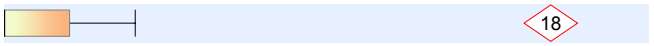
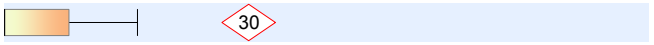
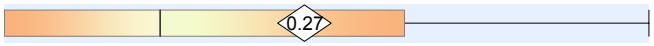
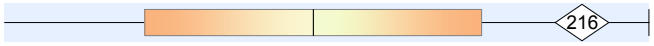
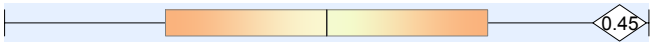
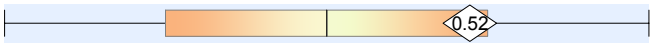
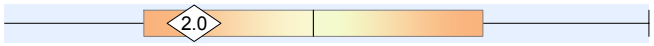
Specimen Id.:

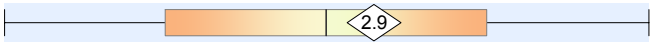
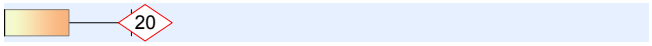
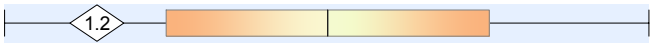
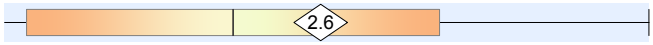
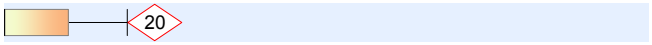
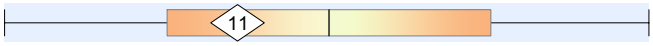
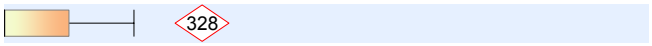
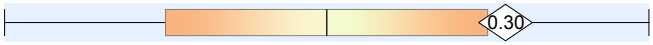
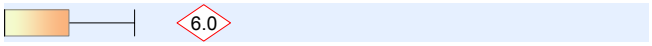
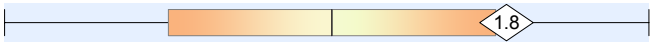
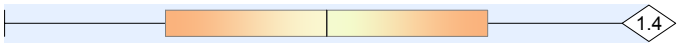
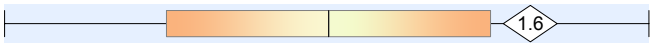
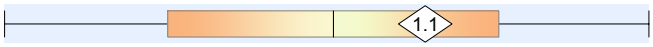
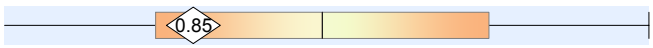
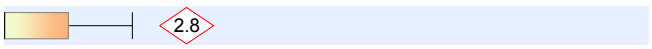
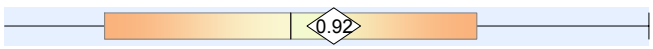
Practitioner:

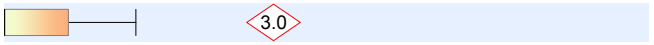
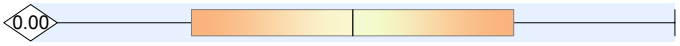
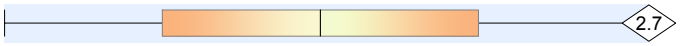
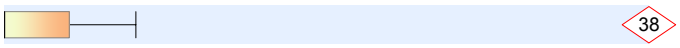
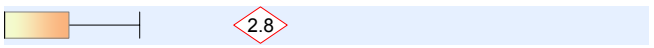
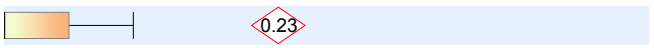
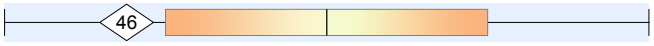
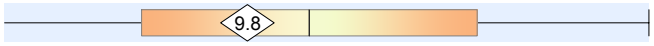
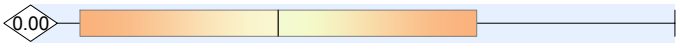
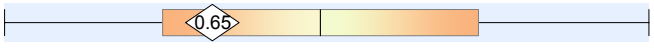
Date of Collection:

Time of Collection:

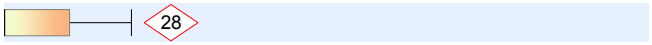
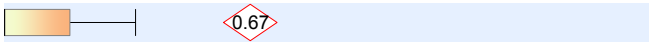
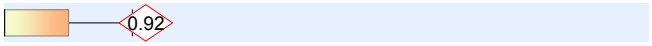
Print Date:

Metabolic Markers in Urine	Reference Range *(mmol/mol creatinine)*	Patient Value	Reference Population - Males Age 13 and Over
Intestinal Microbial Overgrowth			
Yeast and Fungal Markers			
1 Citramalic	0.11 - 2.0	H 5.8	
2 5-Hydroxymethyl-2-furoic *(Aspergillus)*	≤ 18	1.8	
3 3-Oxoglutaric	≤ 0.11	0.06	
4 Furan-2,5-dicarboxylic *(Aspergillus)*	≤ 13	3.5	
5 Furancarbonylglycine *(Aspergillus)*	≤ 2.3	0.50	
6 Tartaric *(Aspergillus)*	≤ 5.3	H 18	
7 Arabinose	≤ 20	H 30	
8 Carboxycitric	≤ 20	11	
9 Tricarballylic *(Fusarium)*	≤ 0.58	0.27	
Bacterial Markers			
10 Hippuric	≤ 241	216	
11 2-Hydroxyphenylacetic	0.03 - 0.47	0.45	
12 4-Hydroxybenzoic	≤ 0.73	0.52	
13 4-Hydroxyhippuric	≤ 14	2.5	
14 DHPPA (Beneficial Bacteria)	≤ 0.23	0.09	
Clostridia Bacterial Markers			
15 4-Hydroxyphenylacetic *(C. difficile, C. stricklandii, C. lituseburense & others)*	≤ 18	6.9	
16 HPHPA *(C. sporogenes, C. caloritolerans, C. botulinum & others)*	≤ 102	29	
17 4-Cresol *(C. difficile)*	≤ 39	7.4	
18 3-Indoleacetic *(C. stricklandii, C. lituseburense, C. subterminale & others)*	≤ 6.8	2.0	

Metabolic Markers in Urine	Reference Range *(mmol/mol creatinine)*	Patient Value	Reference Population - Males Age 13 and Over
Oxalate Metabolites			
19 Glyceric	0.21 - 4.9	2.9	
20 Glycolic	18 - 81	H 129	
21 Oxalic	8.9 - 67	H 107	
Glycolytic Cycle Metabolites			
22 Lactic	0.74 - 19	H 20	
23 Pyruvic	0.28 - 6.7	1.2	
Mitochondrial Markers - Krebs Cycle Metabolites			
24 Succinic	≤ 5.3	2.6	
25 Fumaric	≤ 0.49	H 0.94	
26 Malic	≤ 1.1	H 1.9	
27 2-Oxoglutaric	≤ 18	H 20	
28 Aconitic	4.1 - 23	11	
29 Citric	2.2 - 260	H 328	
Mitochondrial Markers - Amino Acid Metabolites			
30 3-Methylglutaric	0.02 - 0.38	0.30	
31 3-Hydroxyglutaric	≤ 4.6	H 6.0	
32 3-Methylglutaconic	0.38 - 2.0	1.2	
Neurotransmitter Metabolites			
Phenylalanine and Tyrosine Metabolites			
33 Homovanillic (HVA) *(dopamine)*	0.39 - 2.2	1.8	
34 Vanillylmandelic (VMA) *(norepinephrine, epinephrine)*	0.53 - 2.2	1.3	
35 HVA / VMA Ratio	0.32 - 1.4	1.4	
36 Dihydroxyphenylacetic (DOPAC) *(dopamine)*	0.27 - 1.9	1.6	
37 HVA/ DOPAC Ratio	0.17 - 1.6	1.1	
Tryptophan Metabolites			
38 5-Hydroxyindoleacetic (5-HIAA) *(serotonin)*	≤ 2.9	0.85	
39 Quinolinic	0.52 - 2.4	H 2.8	
40 Kynurenic	≤ 1.8	0.92	

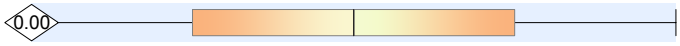
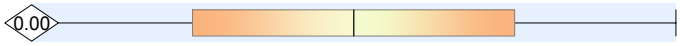
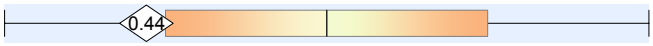
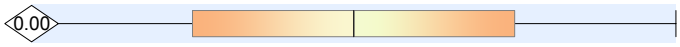
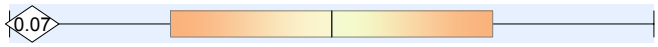
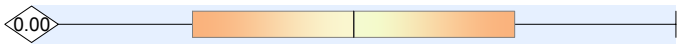
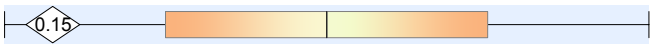
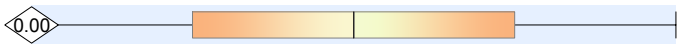
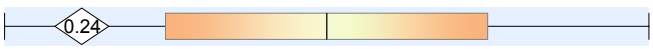
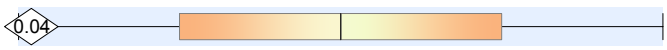
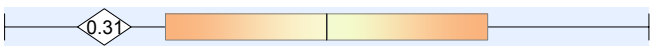
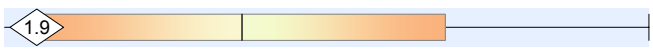
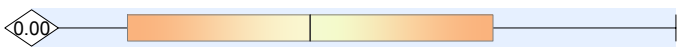
	Reference Range *(mmol/mol creatinine)*	Value	Reference Population - Males Age 13 and Over
Pyrimidine Metabolites - Folate Metabolism			
41 Uracil	≤ 6.9	5.5	
42 Thymine	≤ 0.36	0.23	
Ketone and Fatty Acid Oxidation			
43 3-Hydroxybutyric	≤ 1.9	H 3.0	
44 Acetoacetic	≤ 10	0	
45 Ethylmalonic	0.13 - 2.7	2.7	
46 Methylsuccinic	≤ 2.3	1.8	
47 Adipic	≤ 2.9	H 38	
48 Suberic	≤ 1.9	H 2.8	
49 Sebacic	≤ 0.14	H 0.23	
Nutritional Markers			
Vitamin B12			
50 Methylmalonic ✱	≤ 2.3	1.9	
Vitamin B6			
51 Pyridoxic (B6)	≤ 26	0.75	
Vitamin B5			
52 Pantothenic (B5)	≤ 5.4	1.1	
Vitamin B2 (Riboflavin)			
53 Glutaric ✱	≤ 0.43	0.33	
Vitamin C			
54 Ascorbic	10 - 200	46	
Vitamin Q10 (CoQ10)			
55 3-Hydroxy-3-methylglutaric ✱	≤ 26	9.8	
Glutathione Precursor and Chelating Agent			
56 N-Acetylcysteine (NAC)	≤ 0.13	0	
Biotin (Vitamin H)			
57 Methylcitric ✱	0.15 - 1.7	0.65	

✱ ***A high value for this marker may indicate a deficiency of this vitamin.***

Metabolic Markers in Urine	Reference Range (mmol/mol creatinine)			Patient Value		Reference Population - Males Age 13 and Over
Indicators of Detoxification						
Glutathione						
58 Pyroglutamic *	5.7	-	25	H	28	
Methylation, Toxic exposure						
59 2-Hydroxybutyric **		≤	1.2	H	2.1	
Ammonia Excess						
60 Orotic		≤	0.46	H	0.67	
Aspartame, salicylates, or GI bacteria						
61 2-Hydroxyhippuric		≤	0.86	H	0.92	

* *A high value for this marker may indicate a Glutathione deficiency.*

** *High values may indicate methylation defects and/or toxic exposures.*

Amino Acid Metabolites						
62 2-Hydroxyisovaleric		≤	2.0		0	
63 2-Oxoisovaleric		≤	2.0		0	
64 3-Methyl-2-oxovaleric		≤	2.0		0.44	
65 2-Hydroxyisocaproic		≤	2.0		0	
66 2-Oxoisocaproic		≤	2.0		0.07	
67 2-Oxo-4-methiolbutyric		≤	2.0		0	
68 Mandelic		≤	2.0		0.15	
69 Phenyllactic		≤	2.0		0	
70 Phenylpyruvic		≤	2.0		0.24	
71 Homogentisic		≤	2.0		0.04	
72 4-Hydroxyphenyllactic		≤	2.0		0.31	
73 N-Acetylaspartic		≤	38		1.9	
74 Malonic		≤	9.9		0	
75 4-Hydroxybutyric		≤	4.3		0	
Mineral Metabolism						
76 Phosphoric	1,000	-	4,900		1,451