The Great Plains Laboratory, Inc.

William Shaw, Ph.D., Director   11813 West 77th Street, Lenexa, KS 66214   (913) 341-8949   Fax (913) 341-6207

Requisition #:

Patient Name:

Patient Age:

Patient Sex:

Physician:

Date of Collection:

Time of Collection:

Print Date:

Microbial Organic Acids Test

Metabolic Markers in Urine	Reference Range (mmol/mol creatinine)	Patient	Reference Population - Males Under Age 13
Yeast/Fungal Metabolites			
1 Citramalic	≤ 5.0	2.0	
2 5-Hydroxymethyl-2-furoic	≤ 28	6.8	
3 3-Oxoglutaric	≤ 0.46	0.16	
4 Furan-2,5-dicarboxylic	≤ 18	9.9	
5 Furancarbonylglycine	≤ 3.1	0.11	
6 Tartaric	≤ 6.5	4.0	
7 Arabinose	≤ 50 **H**	139	
8 Carboxycitric	≤ 25	6.2	
9 Tricarballylic	≤ 1.3	0.72	
Bacterial Metabolites			
10 2-Hydroxyphenylacetic	≤ 0.86	0.44	
11 4-Hydroxyphenylacetic	2.0 - 32	18	
12 4-Hydroxybenzoic	≤ 3.0	2.4	
13 4-Hydroxyhippuric	≤ 30 **H**	97	
14 HPHPA (Clostridia Marker)	≤ 220	161	
15 4-Cresol (C. difficile)	≤ 84	10	
16 DHPPA (Beneficial Bacteria)	≤ 0.59	0.29	
Additional Indicators			
17 Hippuric	≤ 680	337	
18 3-Indoleacetic	0.60 - 14	0.74	
19 3-Hydroxy-3-methylglutaric*	≤ 88	87	
20 2-Hydroxyhippuric	≤ 1.2 **H**	9.8	

The Great Plains Laboratory, Inc.

Indicator of Fluid Intake

21	*Creatinine	78	mg/dL

*The creatinine test is performed to adjust metabolic marker results for differences in fluid intake. Urinary creatinine has limited diagnostic value due to variability as a result of recent fluid intake. Samples are rejected if creatinine is below 20 mg/dL unless the client requests results knowing of our rejection criteria.

Explanation of Report Format

The reference ranges for organic acids were established using samples collected from typical individuals of all ages with no known physiological or psychological disorders. The ranges were determined by calculating the mean and standard deviation (SD) and are defined as $\pm$ 2SD of the mean. Reference ranges are age and gender specific, consisting of Male Adult ($\geq$13 years), Female Adult ($\geq$13 years), Male Child (<13 years), and Female Child (<13 years).
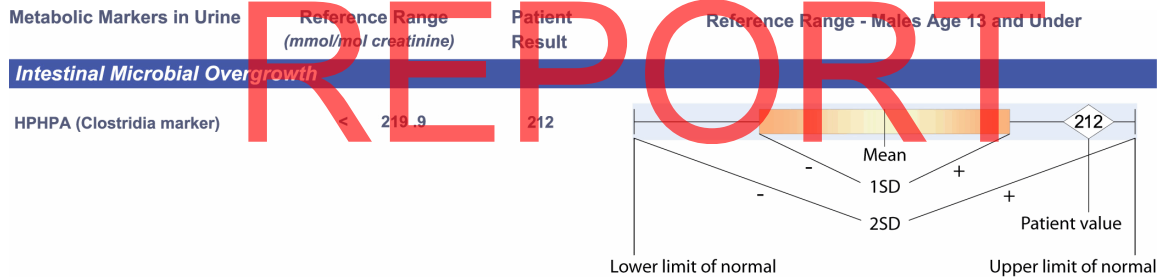
There are two types of graphical representations of patient values found in the new report format of both the standard Organic Acids Test and the Microbial Organic Acids Test.

The first graph will occur when the value of the patient is within the reference (normal) range, defined as the mean plus or minus two standard deviations.

The second graph will occur when the value of the patient exceeds the upper limit of normal. In such cases, the graphical reference range is "shrunk" so that the degree of abnormality can be appreciated at a glance. In this case, the lower limits of normal are not shown, only the upper limit of normal is shown.

In both cases, the value of the patient is given to the left of the graph and is repeated on the graph inside a diamond. If the value is within the normal range, the diamond will be outlined in black. If the value is high or low, the diamond will be outlined in red.

Example of Value Within Reference Range

Example of Elevated Value