

16020 Linden Ave N, Shoreline, WA 98133, USA Tel:(206)365-1256 http://www.usbiotek.com Director: Stephen Markus, MD Fax:(206)363-8790

Provider: Dr. Ray Psonak Collected: Sex: Patient: Age: Received: Sample Patient Accession: Sample Type: Completed:

Reference Analyte Result Range **Reference Range Percentile** $(\mu g/mg creatinine)$ 30 40 50 60 70 80 90 10 20 99 **Glycolysis Metabolites** (H) 1 Pyruvate 3.16 < 2.10 2 5.87 < 23.10 Lactate **Citric Acid Cycle Metabolites** 3 56.15 34.30 - 751.30 Citrate < 65.00 4 37.40 Cis-Aconitate 5 Isocitrate 39.29 28.00 - 70.00 6 Alpha-Ketoglutarate 33.73 < 26.00 (H) 7 Succinate 5.34 < 22.50 8 **Fumarate** 0.51 < 1.90 9 Malate 1.04 < 4.00**Fatty Acid Oxidation** 10 Adipate 6.01 < 4.40Suberate 1.22 < 2.80 11 12 Ethylmalonate 1.87 < 5.50 13 Methylsuccinate 2.58 < 3.10 **Ketone Metabolites** 14 Beta-Hydroxybutyrate 0.91 < 7.20 Markers for Cofactor Need 0.40 (H) 15 Alpha-Ketoisovalerate < 0.40 < 0.21 < 0.50 16 Alpha-Ketoisocaproate 17 Alpha-Keto-Beta-Methylvalerate 0.34 < 2.10 18 Beta-Hydroxyisovalerate 2.37 < 11.20 19 Methylmalonate < 0.41 < 1.60 20 1.88 Kynurenate < 3.00 21 5.66 Hydroxymethylglutarate < 5.90**Markers of Neurotransmitter Metabolism** 22 Vanilmandelate 3.26 < 4.7023 Homovanillate 8.12 < 6.80(H) 24 5-Hydroxyindoleacetate 4.69 1.30 - 13.50 25 Quinolinate 3.03 < 7.20 MEDIAN

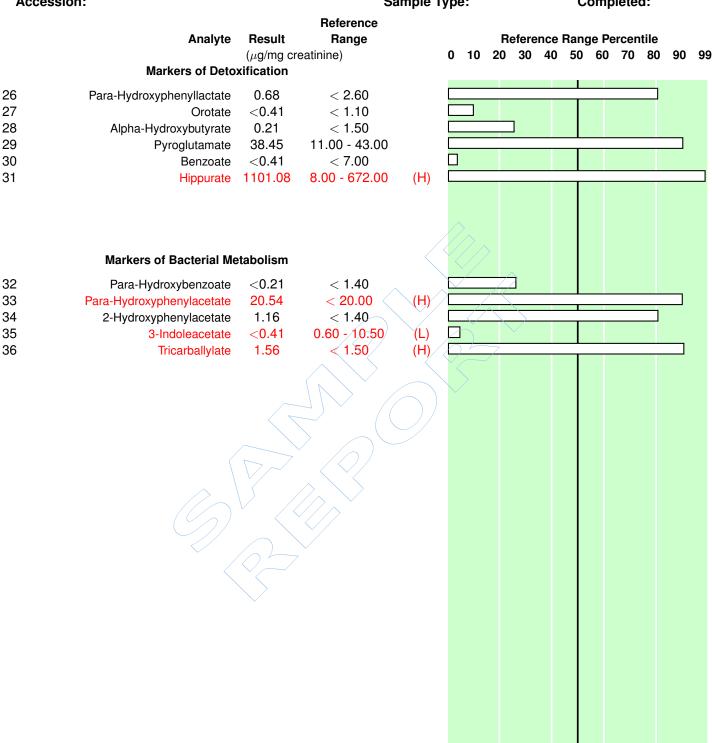
Reference range updated 6/17/2019. Reference range is not gender adjusted. Reference range is age adjusted for children. Method: LC/MS/MS

This test is not intended to diagnose, treat, cure, or prevent any disease or replace the medical advice and/or treatment obtained from a qualified healthcare practitioner. US BioTek Laboratories, LLC. has developed and determined the performance characteristic of this test under the Clinical Laboratory Improvement Amendments (CLIA). This test has not been evaluated by the U.S. Food and Drug Administration and is considered for investigational and research purposes only. This test does not assess for neonatal inborn errors of metabolism and is based on stable renal function and normal renal clearance.

Organic Acids Profile

16020 Linden Ave N, Shoreline, WA 98133, USA http://www.usbiotek.com Director: Stephen Markus, MD Tel:(206)365-1256 Fax:(206)363-8790

Collected: Provider: Sex: Patient: Age: Received: Accession: Sample Type: Completed:



Reference range updated 6/17/2019. Reference range is not gender adjusted. Reference range is age adjusted for children. Method: LC/MS/MS

This test is not intended to diagnose, treat, cure, or prevent any disease or replace the medical advice and/or treatment obtained from a qualified healthcare practitioner. US BioTek Laboratories, LLC. has developed and determined the performance characteristic of this test under the Clinical Laboratory Improvement Amendments (CLIA). This test has not been evaluated by the U.S. Food and Drug Administration and is considered for investigational and research purposes only. This test does not assess for neonatal inborn errors of metabolism and is based on stable renal function and normal renal clearance.

The analytes on the panel are subject to change without prior notice. Lactate is reported as D- and L-Lactate combined on UMP. CLIA: 50D0965661 COLA accredited

http://www.usbiotek.com/

MEDIAN