REALTIME LABORATORIES INC.

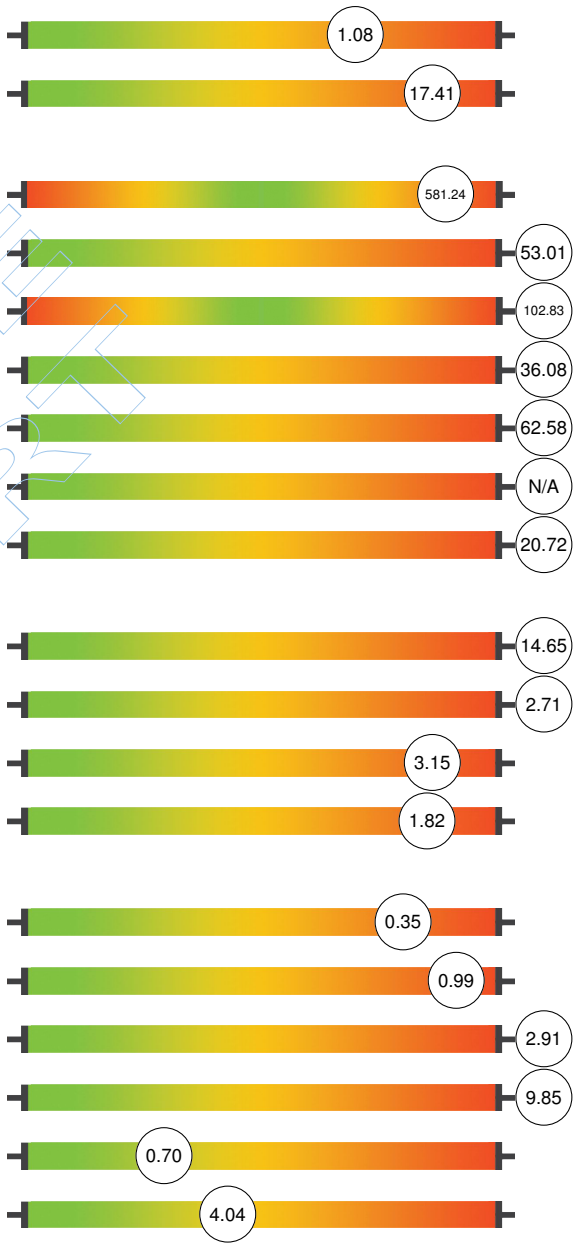
Organic Acids Profile

Provider: sample
Patient: sample
Accession #: 2000123456

Sex:
Age:
Sample Type: Urine Card

Collected: 2023-04-11
Received: 2023-04-11
Completed:

Analyte	Result (μg/mg creatinine)	Reference Range	Population Percentile
Glycolysis			
1. Pyruvate	1.08	< 1.90	66%
2. Lactate	17.41	< 23.35	83%
Citric Acid Cycle			
3. Citrate	581.24	71.30 - 772.63	86%
4. Cis-Aconitate (H)	53.01	< 40.54	91%
5. Isocitrate (H)	102.83	19.94 - 74.88	97%
6. Alpha-Ketoglutarate (H)	36.08	< 18.94	93%
7. Succinate (H)	62.58	< 20.99	99%
8. Fumarate (H)	>ULOQ	< 1.13	N/A
9. Malate (H)	20.72	< 2.62	97%
Fatty Acid Oxidation			
10. Adipate (H)	14.65	< 4.42	96%
11. Suberate (H)	2.71	< 2.64	90%
12. Ethylmalonate	3.15	< 3.88	83%
13. Methylsuccinate	1.82	< 2.20	82%
Markers for Protein Metabolism			
14. Alpha-Ketoisovalerate	0.35	< 0.49	76%
15. Alpha-Ketoisocaproate	0.99	< 1.09	88%
16. Alpha-Keto-Beta-Methylvalerate (H)	2.91	< 1.29	92%
17. Beta-Hydroxyisovalerate (H)	9.85	< 8.86	90%
18. Methylmalonate	0.70	< 1.64	24%
19. Hydroxymethylglutarate	4.04	< 7.20	38%



Reference range updated 5/21/2021. Reference range is not gender adjusted. Reference range is age adjusted for children. Method: LC/MS/MS. LLOQ: Lower limit of quantitation ULOQ: Upper limit of quantitation. Lactate is reported as D- and L-Lactate combined on OAP. 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 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. This test does not assess for neonatal inborn errors of metabolism and is based on stable renal function and normal renal clearance.

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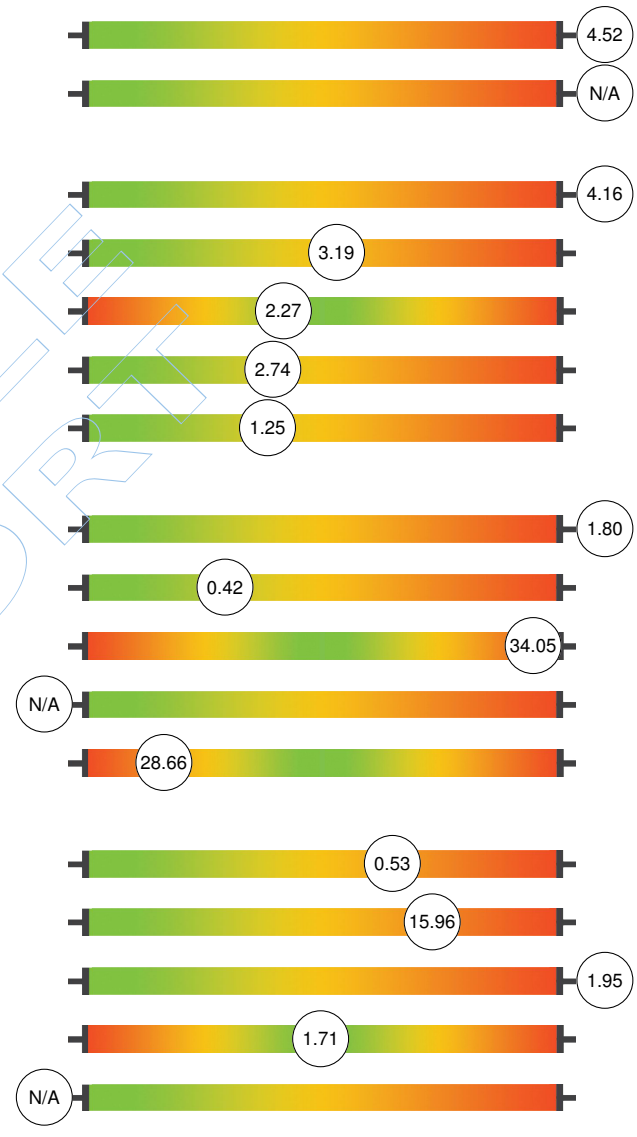
Ketone Metabolites			
20. Alpha-Hydroxybutyrate (H)	4.52	< 1.24	91%
21. Beta-Hydroxybutyrate (H)	>ULOQ	< 8.09	N/A
Markers of Neurotransmitter Metabolism			
22. Vanilmandelate (H)	4.16	< 3.64	90%
23. Homovanillate	3.19	< 6.66	48%
24. 5-Hydroxyindoleacetate	2.27	1.17 - 8.06	37%
25. Quinolinate	2.74	< 5.37	34%
26. Kynurenate	1.25	< 2.49	33%
Markers of Detoxification			
27. Para-Hydroxyphenyllactate (H)	1.80	< 1.55	90%
28. Orotate	0.42	< 1.04	24%
29. Pyroglutamate	34.05	14.58 - 37.47	91%
30. Benzoate	<LLOQ	< 6.87	N/A
31. Hippurate	28.66	17.13 - 768.53	10%
Markers of Bacterial Metabolism			
32. Para-Hydroxybenzoate	0.53	< 1.43	60%
33. Para-Hydroxyphenylacetate	15.96	< 26.39	69%
34. 2-Hydroxyphenylacetate (H)	1.95	< 1.24	93%
35. 3-Indoleacetate	1.71	0.46 - 9.21	45%
36. Tricarballylate	<LLOQ	< 1.06	N/A



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REALTIME LABORATORIES INC.

Environmental Pollutants Profile

Provider: sample
Patient: sample
Accession #: 2000123456

Sex:
Age:
Sample Type: Urine Card

Collected: 2023-04-11
Received: 2023-04-11
Completed:

Analyte	Result (μg/mg creatinine)	Reference Range	Population Percentile
Xylene Exposure			
1. 3-Methylhippurate	0.03	< 0.18	20%
2. 2-Methylhippurate	<LLOQ	< 0.06	N/A
Toluene Exposure			
3. Hippurate	28.66	< 768.53	10%
4. *Benzoate*	<LLOQ	< 6.87	N/A

Benzoate is metabolized to Hippurate. Elevations may cause elevated Hippurate independent of Toluene.

Benzene Exposure			
5. t,t-Muconic Acid	<LLOQ	< 0.15	N/A
Trimethylbenzene Exposure			
6. 3,4-Dimethylhippurate	<LLOQ	< 0.01	N/A
Styrene Exposure			
7. Mandelate	0.28	< 0.34	80%
8. Phenylglyoxylate	0.14	< 0.30	37%
9. Mandelate + Phenylglyoxylate	0.42	< 0.61	64%
Phthalate Exposure			
10. Monoethyl Phthalate	0.06	< 0.10	78%
11. Phthalate	0.05	< 0.17	29%
12. Quinolinate	2.74	< 5.37	34%
Paraben Exposure			
13. Para-Hydroxybenzoate	0.53	< 1.43	60%
Methyl Tert-butyl Ether Exposure			
14. Alpha-Hydroxyisobutyrate (H)	8.39	< 6.35	91%

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