

Ordering Physician:
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0060 Porphyrin Profile - Urine

Methodology: UPLC/Fluorescence detection, Colorimetry

Ranges are for ages 13 and over

Compound Tested

Results
 nmol/g creatinine

Quintile Ranking



95% Reference Range

Porphyrin Pathway Intermediates

Compound Tested	Results (nmol/g creatinine)	Quintile Ranking	95% Reference Range
1. Uroporphyrin I & III	7.1	16.6	<= 27.2
2. Heptacarboxyporphyrin	2.6	5.9	<= 11.2
3. Hexacarboxyporphyrin	<DL		<= 3.3
4. Pentacarboxyporphyrin	<DL	2.1	<= 5.4
5. Precoproporphyrin*	7.2	7.5	<= 14.8
6. Coproporphyrin I	16	33	<= 56
7. Coproporphyrin III	35	89	<= 159

Calculated Values

Compound Tested	Results (nmol/g creatinine)	Quintile Ranking	95% Reference Range
8. Total Porphyrins	61	143	<= 233
9. Precopro/Uro I & III	1.01 H	0.64	<= 1.11
10. Copro I/Copro III	0.46	0.53	<= 0.87

Creatinine = 175 mg/dL

<DL = less than detection limit

*Precoproporphyrin is an atypical porphyrin associated with mercury toxicity.^{1,2}

1. J.S. Woods, M.A. Bowers, H.A. Davis, Toxicology and Applied Pharmacology 110, 464-476 (1991).
 2. D. Echeverria et al., Neurotoxicology and Teratology 28 (2006) 39-48.

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No significant abnormalities are found at this time. This finding is inconsistent with the presence of active genetic porphyrias or toxic effects from mercury, arsenic or lead.

Although precoproporphyrin is not elevated, the relationship of its level to the level of Uroporphyrin I & III makes the ratio high. This pattern is consistent with the effect caused by mercury but may not warrant therapy in the absence of other evidence of mercury toxicity.

Although the Metamatrix profile will reveal disruptions in the heme pathway, the data is not reviewed by a specialist who can make a diagnosis of hereditary porphyrias. Abnormalities may be due to combinations of genetic or physiological factors and environmental exposures. All potential impacts on porphyrin synthesis should be considered when interpreting the results. The comments provided are intended to help alert clinicians to factors that may be relevant according to published studies.