

Ordering Physician:
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0088 Neopterin/Biopterin Profile - Urine

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

Compound Tested	Results ug/mg creatinine	Quintile Ranking					95% Reference Range
		1st	2nd	3rd	4th	5th	
Ranges are for ages 13 and over							
1. Neopterin	0.55 H	0.18				0.53	0.15-0.79
2. Biopterin	0.24	0.05				0.26	0.04-0.35
3. Neopterin/Biopterin ratio	2.29	0.78				5.02	0.04-8.67

Creatinine = 200 mg/dL

<DL = less than detection limit

Interpretation:

Neopterin is a marker of inflammatory challenge such as that precipitated by interferon gamma in response to viral infection or intestinal bacterial overgrowth. Urinary neopterin elevation has been proposed as a surrogate marker for inflammatory diseases. Neopterin and biopterin tend to respond similarly except in conditions such as autism where biopterin tends to rise while neopterin falls in CSF. Such scenarios are most sensitively detected by an abnormal neopterin/biopterin ratio. These markers allow assessment of successful strategies to reduce chronic inflammation.

Values in the first decile are reported as 'L' because they may have significance regarding a patient's ability to produce adequate tetrahydrobiopterin (BH4). BH4 is required for the Phe to Tyr conversion and for formation of nitric oxide and serotonin. The method being used for this assay allows accurate low range determinations that were not possible by earlier methods for neopterin. Patients with insufficient tetrahydrobiopterin synthesis may benefit by supplemental BH4 and folate.