MAYO CLINIC LABORATORIES

Test Definition: PBRC

Lead/Creatinine Ratio, U

Overview

Useful For

Detecting clinically significant lead exposure in random urine specimens

Method Name

Only orderable as part of profile. See PBRCR / Lead/Creatinine Ratio, Random, Urine or HMCRU / Heavy Metal/Creatinine Ratio, with Reflex, Urine.

Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

NY State Available

Yes

Specimen

Specimen Type

Urine

Specimen Required

Only orderable as part of a profile. See PBRCR / Lead/Creatinine Ratio, Random, Urine or HMCRU / Heavy Metal/Creatinine Ratio, with Reflex, Urine.

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Minimum Volume

3 mL

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Urine	Refrigerated (preferred)	28 days	
	Ambient	28 days	
	Frozen	28 days	

Clinical & Interpretive

Clinical Information

Increased urine lead concentration per gram of creatinine indicates significant lead exposure. Measurement of urine lead concentration per gram of creatinine before **and** after chelation therapy have been used as an indicator of significant lead exposure. An increase in lead concentration per gram of creatinine in the postchelation specimen of up to 6 times the concentration in the prechelation specimen is normal.

Blood lead is the best clinical correlate of toxicity.

For additional information, see PBBD / Lead with Demographics, Blood.

Reference Values

Only orderable as part of a profile. See PBRCR / Lead/Creatinine Ratio, Random, Urine or HMCRU / Heavy Metal/Creatinine Ratio, with Reflex, Urine.

Interpretation

Urinary excretion of less than 4 mcg/g creatinine is not associated with any significant lead exposure.

Urinary excretion greater than 4 mcg/g creatinine is usually associated with pallor, anemia, and other evidence of lead toxicity.

Cautions

This test is not a substitute for blood lead screening.

Clinical Reference

1. Kosnett MJ, Wedeen RP, Rotherberg SJ, et al: Recommendations for medical management of adult lead exposure. Environ Health Perspect 2007;115:463-471

2. De Burbane C, Buchet JP, Leroyer A, et al: Renal and neurologic effects of cadmium, lead, mercury, and arsenic in children: evidence of early effects and multiple interactions at environmental exposure levels. Environ Health Perspect 2006;114:584-590

Performance

Method Description

Lead(Pb) in urine is analyzed by inductively coupled plasma-mass spectrometry (ICP-MS) in kinetic energy discrimination (KED) mode using gallium (Ga), rhodium (Rh), and iridium (Ir) as internal standards and a 5% nitric acid salt matrix calibration.(Unpublished Mayo method)

PDF Report

No

Specimen Retention Time

14 days

Performing Laboratory Location

Rochester

Fees & Codes

Test Classification

This test was developed, and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the US Food and Drug Administration.

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
PBRC	Lead/Creatinine Ratio, U	13466-8

Result ID	Reporting Name	LOINC®
48548	Lead/Creatinine Ratio, U	13466-8