Overview

Useful For
Detecting exposure to cadmium, a toxic heavy metal

Special Instructions
• Metals Analysis Specimen Collection and Transport

Method Name
Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

NY State Available
Yes

Specimen

Specimen Type
Whole blood

Specimen Required
Patient Preparation: High concentrations of gadolinium and iodine are known to potentially interfere with most inductively coupled plasma mass spectrometry based metal tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Container/Tube: Royal blue top (EDTA) plastic trace element blood collection tube

Specimen Volume: Full tube

Collection Instructions:
1. See Metals Analysis Specimen Collection and Transport for complete instructions.
2. Send whole blood specimen in original collection tube. Do not aliquot.

Forms
If not ordering electronically, complete, print, and send General Request (T239)

Specimen Minimum Volume
0.3 mL

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
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</table>
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
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Clinical & Interpretive

Clinical Information

The toxicity of cadmium resembles the other heavy metals (arsenic, mercury, and lead) in that it attacks the kidney; kidney dysfunction with proteinuria with slow onset (over a period of years) is the typical presentation.

Breathing the fumes of cadmium vapors leads to nasal epithelial deterioration and pulmonary congestion resembling chronic emphysema.

The most common source of chronic exposure comes from spray painting organic-based paints without a protective breathing apparatus; auto repair mechanics represent a susceptible group for cadmium toxicity. In addition, another common source of cadmium exposure is tobacco smoke.

Reference Values

<5.0 ng/mL
Reference values apply to all ages.

Interpretation

Normal blood cadmium is less than 5.0 ng/mL, with most results in the range of 0.5 to 2.0 ng/mL.

Acute toxicity will be observed when the blood level exceeds 50 ng/mL.

Cautions

No significant cautionary statements

Clinical Reference


Performance

Method Description

The metal of interest is analyzed by inductively coupled plasma mass spectrometry. (Unpublished Mayo method)
Test Definition: CDB
Cadmium, Blood

PDF Report
No

Day(s) Performed
Monday through Saturday

Report Available
1 to 2 days

Specimen Retention Time
14 days

Performing Laboratory Location
Rochester

Fees & Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

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.

CPT Code Information
82300

LOINC® Information

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<th>Order LOINC® Value</th>
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<td>CDB</td>
<td>Cadmium, B</td>
<td>5609-3</td>
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<table>
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<tr>
<th>Result ID</th>
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<tbody>
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<td>8682</td>
<td>Cadmium, B</td>
<td>5609-3</td>
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