Overview

Useful For
Diagnosing congenital alpha-2 plasmin inhibitor deficiencies (rare)
Providing a more complete assessment of disseminated intravascular coagulation, intravascular coagulation and fibrinolysis, or hyperfibrinolysis (primary fibrinolysis), when measured in conjunction with fibrinogen, fibrin D-dimer, fibrin degradation products, soluble fibrin monomer complex, and plasminogen
Evaluating liver disease
Evaluating the effects of fibrinolytic or antifibrinolytic therapy

Special Instructions
• Coagulation Guidelines for Specimen Handling and Processing

Method Name
Chromogenic

NY State Available
Yes

Specimen

Specimen Type
Plasma Na Cit

Specimen Required
See Coagulation Guidelines for Specimen Handling and Processing in Special Instructions.

Specimen Type: Platelet-poor plasma
Collection Container/Tube: Light-blue top (citrate)
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL

Collection Instructions:
1. Centrifuge, remove plasma, and centrifuge plasma again.
2. Freeze specimen immediately at< or =-40 degrees C, if possible.

Additional Information:
1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.
2. Each coagulation assay requested should have its own vial.

Forms
If not ordering electronically, complete, print, and send a Coagulation Test Request (T753) with the specimen.

Reject Due To

Gross hemolysis   Reject
Gross lipemia     Reject
Test Definition: A2PI
Alpha-2 Plasmin Inhibitor, P

Gross icterus Reject

Specimen Minimum Volume
0.5 mL

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>Plasma Na Cit</td>
<td>Frozen (preferred)</td>
<td>14 days</td>
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Clinical & Interpretive

Clinical Information
Alpha-2 plasmin inhibitor (antiplasmin) is synthesized in the liver with a biological half-life of approximately 3 days. It inactivates plasmin, the primary fibrinolytic enzyme responsible for remodeling the fibrin thrombus, and binds fibrin, together with factor XIIIa, making the clot more difficult to lyse. Absence of alpha-2 plasmin inhibitor results in uncontrolled plasmin-mediated breakdown of the fibrin clot and is associated with increased risk of bleeding.

Reference Values
Adults: 80-140%
Normal, full-term, and premature infants may have mildly decreased levels (> or =50%) which reach adult levels < or = 90 days postnatal.*
*See Pediatric Hemostasis References section in Coagulation Guidelines for Specimen Handling and Processing in Special Instructions.

Interpretation
Patients with congenital homozygous deficiency (with levels of <10%) are clinically affected (bleeding). Heterozygotes having levels of 30% to 60% of mean normal activity are usually asymptomatic. Lower than normal levels may be suggestive of consumption due to activation of plasminogen and its inhibition by alpha-2 plasmin inhibitor. The clinical significance of high levels of alpha-2 plasmin inhibitor is unknown.

Cautions
Alpha-2 plasmin inhibitor results are potentially affected by:
- Heparin, unfractionated or low-molecular-weight >4 U/mL
- Alpha-2-macroglobulin >7 mg/mL; potentially leading to a falsely-increased result
- Hemoglobin >200 mg/dL
- Bilirubin >20 mg/dL
- Triglycerides >1000 mg/dL

Clinical Reference
Test Definition: A2PI
Alpha-2 Plasmin Inhibitor, P

Performance

Method Description
This assay is performed using the HemosIL Plasmin Inhibitor Kit on the Instrumentation Laboratory ACL TOP. Patient plasma, containing alpha-2 plasmin inhibitor, is mixed with reagent containing excess plasmin. Plasmin activity in the reagent is rapidly inhibited by alpha-2 plasmin inhibitor. Residual plasmin activity is then measured using an amidolytic activity assay, in which residual plasmin lyses a synthetic chromogenic substrate and subsequently releases paranitroanline (detected at 405 nm) to a level that is inversely proportional to the amount of alpha-2 plasmin inhibitor in the sample. (Teger-Nilsson AC, Friberger P, Gyzander E: Determination of a new rapid plasmin inhibitor in human blood by means of a plasmin specific tripeptide substrate. Scand J Clin Lab Invest 1977;37:403-409)

PDF Report
No

Specimen Retention Time
7 days

Performing Laboratory Location
Rochester

Fees & Codes

Test Classification
This test has been modified from the manufacturer’s instructions. Its performance characteristics were 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
85410

LOINC® Information

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<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<td>A2PI</td>
<td>Alpha-2 Plasmin Inhibitor, P</td>
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