Overview

Useful For
Monitoring heparin therapy (unfractionated heparin)
Screening for certain coagulation factor deficiencies
Detection of coagulation inhibitors such as lupus anticoagulant, specific factor inhibitors, and nonspecific inhibitors

Method Name
Coagulometric (Turbidimetric)

NY State Available
Yes

Specimen

Specimen Type
Plasma Na Cit

Advisory Information
The primary method for therapeutic heparin monitoring is the heparin anti-Xa assay. Order HEPTP / Heparin Anti-Xa Assay, Plasma.

Specimen Required
Specimen Type: Platelet-poor plasma
Collection Container/Tube: Light-blue top (3.2% sodium citrate)
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL

Collection Instructions:
1. Centrifuge, remove plasma and centrifuge plasma again.
2. Aliquot plasma into plastic vial leaving 0.25 mL in the bottom of centrifuged vial.

Additional Information: Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Minimum Volume
0.5 mL

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
</tbody>
</table>
Test Definition: APTTP
Activated Partial Thrombopl Time, P

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma Na Cit</td>
<td>Frozen (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>4 hours</td>
<td></td>
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</tbody>
</table>

Clinical and Interpretive

Clinical Information
The activated partial thromboplastin time (APTT) assay is used as a screening test to evaluate the overall integrity of the intrinsic/common coagulation pathway and to monitor patients on heparin therapy.

This test reflects the activities of most of the coagulation factors in the intrinsic and common procoagulant pathway, but not the extrinsic procoagulant pathway, which includes factor VII and tissue factor, nor the activity of factor XIII (fibrin stabilizing factor).

Reference Values
25-37 seconds

Interpretation
Prolongation of the activated partial thromboplastin time (APTT) can occur as a result of deficiency of one or more coagulation factors (acquired or congenital in origin), or the presence of an inhibitor of coagulation such as heparin, a lupus anticoagulant, a nonspecific inhibitor such as a monoclonal immunoglobulin, or a specific coagulation factor inhibitor. Prolonged clotting times may also be observed in cases of fibrinogen deficiency, liver disease, and vitamin K deficiency.

Shortening of the APTT usually reflects either elevation of factor VIII activity in vivo that most often occurs in association with acute or chronic illness or inflammation, or spurious results associated with either difficult venipuncture and specimen collection or suboptimal specimen processing.

Cautions
Activated partial thromboplastin time (APTT) results may be affected by many commonly administered drugs and should be considered as a potential source of unexpected abnormal results.

APTT testing will not detect all lupus anticoagulants, antiphospholipid antibodies, or coagulation inhibitors. SynthASil reagent is reportedly sensitive to decreased concentration of intrinsic factors resulting in an abnormal APTT value when factors VIII, IX, XI, and XII levels were in the 35% to 60% range.

Mixing studies may be indicated to further evaluate specimens with an unexplained prolonged APTT.

Supportive Data
The activated partial thromboplastin time (APTT) reference interval of 25 to 37 seconds was determined by verifying the IL package insert.

Clinical Reference
Method Description

Coagulometric (turbidimetric) clot detection is based on the principle that light passing through a medium in which fibrinogen is converted to fibrin is absorbed by the fibrin strands. Light at 671 nm is transmitted through a sample onto a photodetector, which is positioned 180 degrees to the source. Light absorption increases as fibrin clot formation progresses. Consequently, light transmittance through the sample continuously decreases and is measured by the photodetector. The corresponding electrical signal output from the photodetector changes according to the detected light. The signal output is processed via software through a series of algorithms to determine the clot point.

In this test, the incubation of plasma sample with an optimal quantity of phospholipid, a negatively charged contact activator, and buffer initiates the activation of the intrinsic coagulation pathway. After incubation at 37 degrees C, calcium is added to trigger the coagulation process and the time required for clot formation is measured. The activated partial thromboplastin included in the SynthASil kit is a liquid buffered reagent that contains synthetic phospholipid for optimal platelet-like activity and highly defined nonsettling colloidal silica for optimal activation of the contact phase of coagulation.(Package insert: HemosIL SynthASil; IL ACL TOP Operator's Manual. Instrumentation Laboratory, Bedford, MA. R11. 06/2017)
Test Definition: APTTP
Activated Partial Thromboplastic Time, P

- 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 Regional Manager. For assistance, contact Customer Service.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
85730

LOINC® Information

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<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>APTTP</td>
<td>Activated Partial Thromboplastic Time, P</td>
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<table>
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