Overview

Useful For
Aiding in the confirmation or exclusion of the presence of a lupus anticoagulant (LAC) inhibitor when used in conjunction with other appropriate coagulation tests

Aids in differentiating deficiencies or inhibitors of specific coagulation factors (eg, factor VIII inhibitor) from LAC inhibitors

Method Name
Only orderable as a reflex. For more information, see:

ALUPP / Lupus Anticoagulant Profile, Plasma
ALBLD / Bleeding Diathesis Profile, Limited, Plasma
AATHR / Thrombophilia Profile, Plasma and Whole Blood
APROL / Prolonged Clot Time Profile, Plasma
ADIC / Disseminated Intravascular Coagulation/Intravascular Coagulation and Fibrinolysis (DIC/ICF) Profile, Plasma

Optical Clot-Based

NY State Available
Yes

Specimen

Specimen Type
Plasma Na Cit

Specimen Required
Only orderable as a reflex. For more information see:

ALUPP / Lupus Anticoagulant Profile, Plasma
ALBLD / Bleeding Diathesis Profile, Limited, Plasma
AATHR / Thrombophilia Profile, Plasma and Whole Blood
APROL / Prolonged Clot Time Profile, Plasma
ADIC / Disseminated Intravascular Coagulation/Intravascular Coagulation and Fibrinolysis (DIC/ICF) Profile, Plasma

Reject Due To

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

<table>
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<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>
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<td>14 days</td>
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Clinical and Interpretive

Clinical Information

Prolonged clotting times may be due to a variety of factors including the presence of clotting factor deficiencies, factor inhibitors, and lupus anticoagulants (antiphospholipid antibodies).

When a prolonged activated partial thromboplastin time (APTT) demonstrates inhibition on mixing with normal plasma indicative of presence of an inhibitor, the platelet neutralization procedure (PNP) is useful in determining if this inhibition is due to presence of a lupus anticoagulant (LAC).

The PNP involves the addition of washed, freeze-thawed platelets or buffer to the patient’s plasma. An APTT is done on both mixtures and the clotting times are compared. Additional phospholipid supplied by the PNP reagent can absorb LAC, thereby diagnostically shortening the APTT.

For performance and interpretation of the PNP, the baseline APTT should be significantly prolonged (preferably at least 3 to 5 seconds above the upper limit of the reference range), and APTT inhibition must be demonstrated or suggested by a mixing study with normal plasma (ie, 1:1 mix fails to shorten into the normal range).

Reference Values

Only orderable as a reflex. For more information see:

- ALUPP / Lupus Anticoagulant Profile, Plasma
- ALBLD / Bleeding Diathesis Profile, Limited, Plasma
- AATHR / Thrombophilia Profile, Plasma and Whole Blood
- APROL / Prolonged Clot Time Profile, Plasma
- ADIC / Disseminated Intravascular Coagulation/Intravascular Coagulation and Fibrinolysis (DIC/ICF) Profile, Plasma

An interpretive report will be provided.

Interpretation

Interpretation of the results of the platelet neutralization procedure (PNP) test is complex and needs to be performed in the context of results of mixing study of the prolonged activated partial thromboplastin time (APTT), the APTT PNP and the buffer control APTT, as well as results of other coagulation tests (eg, prothrombin time and thrombin time as well as available clinical information).

Plasma containing lupus anticoagulant (LAC) will demonstrate significant shortening of the prolonged inhibited APTT.
with the addition of platelets (by at least 4-5 seconds), when compared to baseline APTT, and the buffer control APTT typically will be 4 to 5 seconds longer than the PNP APTT.

**Cautions**

The presence of heparin will cause a false-positive platelet neutralization procedure (PNP). The distinction is usually not difficult because the presence of heparin can be detected by a prolonged thrombin time and normal reptilase time.

The presence of coagulation factor V inhibitors or deficiency may also produce a false-positive PNP result. This can be suspected if the prothrombin time (PT) is significantly prolonged and may merit additional testing.

The presence of other coagulopathies or interfering conditions (causing false-positive PNP interpretation) should be evaluated by results of other tests (PT, thrombin time [TT], and other assays if needed) and by available clinical information.

**Clinical Reference**


**Performance**

**Method Description**

The platelet neutralization procedure (PNP) assay is performed on the Instrumentation Laboratory ACL TOP. Two cuvette wells are tested: 1 containing patient plasma and buffer and the other containing patient plasma and PNP platelet reagent. The contents of each cuvette well are combined and incubated with an APTT reagent containing phospholipid, a negatively charged contact factor activator, and buffer. After a specified incubation time, calcium is added to trigger the coagulation process in the mixture. Subsequently, the time to clot formation is measured optically using a wavelength of 671 nm for each cuvette well.(Triplett DA, Brandt MC, Kaczor D, and Shaeffer J: Laboratory diagnosis of lupus inhibitor: A comparison of the tissue thromboplastin inhibitor procedure with a platelet neutralization procedure. Amer J Clin Pathol 1983;79(6):678-682; Nichols WL, Kottke-Marchant K, Ledford-Kraemer MR et al:Â Chapter 39: Lupus Anticoagulants, Antiphospholipid Antibodies, and Antiphospholipid Syndrome. In Laboratory Hematology Practice. Edited by K Kottke-Marchant. Wiley Blackwell Publishing. 2012. pp 509-525)

**PDF Report**

No

**Day(s) and Time(s) Test Performed**

Monday through Friday

**Analytic Time**

Document generated February 6, 2020 at 4:15pm CST
**Test Definition: PNP**

**Platelet Neutralization Procedure**

2 hours

**Maximum Laboratory Time**

4 days

**Specimen Retention Time**

7 days

**Performing Laboratory Location**

Rochester

**Fees and 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 Regional Manager. 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 U.S. Food and Drug Administration.

**LOINC® Information**

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