Overview

Useful For
Diagnosing congenital deficiencies (rare) of coagulation factor V

Evaluating acquired deficiencies associated with liver disease, factor V inhibitors, myeloproliferative disorders, and intravascular coagulation and fibrinolysis

Investigation of prolonged prothrombin time or activated partial thromboplastin time

Special Instructions
- Coagulation Guidelines for Specimen Handling and Processing

Method Name
Optical Clot-Based

NY State Available
Yes

Specimen

Specimen Type
Plasma Na Cit

Advisory Information
Coagulation testing is highly complex, often requiring the performance of multiple assays and correlation with clinical information. For that reason, consider ordering a Coagulation Consultation.

Necessary Information
If priority specimen, mark request form, give reason, and request a call-back.

Specimen Required

Patient Preparation: Patient must not be receiving Coumadin (warfarin) or heparin therapy

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. Specimen must be collected prior to factor replacement therapy.

2. For complete instructions, see Coagulation Guidelines for Specimen Handling and Processing in Special Instructions.
3. Centrifuge, transfer all plasma into a plastic vial, and centrifuge plasma again.

4. Aliquot plasma into a plastic vial, leaving 0.25 mL in the bottom of centrifuged vial.

5. Freeze plasma immediately (no longer than 4 hours after collection) at -20 degrees C or, ideally, < or =-40 degrees C.

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.

Specimen Minimum Volume

0.5 mL

Reject Due To

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

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<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</td>
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Clinical and Interpretive

Clinical Information

Factor V is a vitamin K-independent protein synthesized in the liver and in other tissues (endothelium, megakaryocytes/platelets). In its thrombin-activated form (factor Va), it serves as an essential cofactor in the prothrombinase enzyme complex, which converts prothrombin to thrombin (the prothrombinase complex consists of the enzyme, activated factor X, factor Va cofactor, a phospholipid surface, and calcium).

Deficiency of factor V may cause prolonged prothrombin time and activated partial thromboplastin time and may result in a bleeding diathesis. Plasma biological half-life varies from 12 to 36 hours.

Platelets contain 20% to 25% of the factor V in blood. Factor V (also known as labile factor) is highly susceptible to proteolytic inactivation, with the potential for spuriously decreased assay results.

Reference Values

>1 month: 70%-165%

<1 month: Normal, full-term and premature newborn infants may have mildly decreased levels (> or =30% to 35%)
which reach adult levels within 21 days postnatal.

*See Pediatric Hemostasis References section in Coagulation Guidelines for Specimen Handling and Processingin Special Instructions.

**Interpretation**

Acquired deficiencies are much more common than congenital.

Congenitally deficient homozygotes generally have levels less than or equal to 10% to 20%.

Congenitally deficient heterozygotes generally have levels less than or equal to 50%.

Congenital deficiency may occur in combined association with factor VIII deficiency.

**Cautions**

Factor V (labile factor) is highly susceptible to proteolytic inactivation, with the potential for spuriously decreased assay results. In normal individuals, after freeze-thaw of citrate plasma, factor V activity typically may be 10% to 20% less than observed in a fresh plasma specimen, and in occasional individuals, a more marked decrease of factor V activity occurs. Normal results can be regarded as reliable, but decreased factor V activity results need to be correlated with other clinical and laboratory information. Repeat testing may be necessary.

**Clinical Reference**


**Performance**

**Method Description**

The factor V assay is performed on the Instrumentation Laboratory ACL TOP using the prothrombin time (PT) method and a factor-deficient substrate. Patient plasma is combined and incubated with a factor V-deficient substrate (normal plasma depleted of factor V by immunoadsorption). After a specified incubation time, a PT reagent is added to trigger the coagulation process in the mixture. Then the time to clot formation is measured optically at a wavelength of 671 nm. (Owen CA Jr, Bowie EJW, Thompson JH Jr: Diagnosis of Bleeding Disorders. 2nd ed. Little, Brown, and Company; 1975; Meijer P, Verbruggen, Spannagi M: Clotting factors and inhibitors: Assays and interpretation. In: Kottke-Marchant K, ed. Laboratory Hematology Practice. Wiley Blackwell Publishing; 2012:435-446)

**PDF Report**

No
Test Definition: FACTV
Coag Factor V Assay, P

Day(s) and Time(s) Test Performed
Monday through Friday

Analytic Time
1 day

Maximum Laboratory Time
2 days

SpecimenRetention 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 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 U.S. Food and Drug Administration.

CPT Code Information
85220

LOINC® Information

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