Overview

Useful For

Detection and quantitation of inhibitors against coagulation factor V

This test is **not useful** for the detection of a lupus-like circulating anticoagulant inhibitor, a nonspecific circulating anticoagulant, or other inhibitors that are not specific for coagulation factors.

Profile Information

Test ID	Reporting Name	Available Separately	Always Performed
FACTV	Coag Factor V Assay, P	Yes	Yes
F5_IS	Factor V Inhib Scrn	No	Yes

Reflex Tests

Test ID	Reporting Name	Available Separately	Always Performed
IBETH	Bethesda Units	No	No
CCCR	Special Coagulation Interpretation	No	No

Testing Algorithm

Testing begins with coagulation factor V activity assay with dilutions to evaluate assay inhibition; if the factor V activity assay is normal or increased, the inhibitor screen will be cancelled.Â If the factor V activity assay is decreased, an inhibitor screen will be performed to look for specific factor V inhibition. If specific inhibition is apparent, the titer of the inhibitor will be determined.

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

This test is for factor V inhibitors only. If the presence or type of inhibitor is unknown, order ALUPP / Lupus

Anticoagulant Profile, Plasma first, except for screening studies in patients with known hemophilia A or B.

Shipping Instructions

Send all vials in the same shipping container.

Necessary Information

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

Specimen Required

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

Patient Preparation: Fasting preferred

Collection Container/Tube: Light-blue top (citrate)

Submission Container/Tube: Plastic vials

Specimen Volume: 3 mL in3 plastic vials each containing 1 mL

Collection Instructions:

1. Specimen must be collected prior to factor replacement therapy.

2. Centrifuge, transfer all plasma into a plastic vial, and centrifuge plasma again.

3. Aliquot plasma into 3 separate plastic vials (1 mL in each) leaving 0.25 mL in the bottom of centrifuged vial.

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

Additional Information:

1. Double-centrifuged specimen iscritical 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

2 mL in 2 plastic vials, 1 mL each

Reject Due To

Gross hemolysis	Reject
Gross lipemia	Reject
Gross icterus	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Plasma Na Cit	Frozen	14 days	

Clinical and Interpretive

Clinical Information

Factor V inhibitors can occur in patients with congenital factor V deficiency after transfusion of fresh frozen plasma, however, more commonly, they occur spontaneously in previously healthy older patients who have no underlying diseases. Topical bovine thrombin or fibrin glue, which contain bovine thrombin and factor V, are commonly used in surgery for topical hemostasis and can result in development of anti-bovine thrombin/factor V inhibitors that cross-react with human thrombin and factor V. Other associations include antibiotics, transfusions and malignancies.

Reference Values

FACTOR V ACTIVITY ASSAY

Adults: 75-165%

Normal, full-term newborn infants may have borderline low or mildly decreased levels (> or =30-35%) which reach adult levels within 21 days postnatal.*

Healthy premature infants (30-36 weeks gestation) may have borderline low or mildly decreased levels.*

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

FACTOR V INHIBITOR SCREEN

Negative

Interpretation

Normally, there is no inhibitor, ie, negative result.

If the screening assays indicate the presence of an inhibitor, it will be quantitated and reported in Bethesda (or equivalent) units.

Cautions

Occasionally, a potent lupus-like anticoagulant may cause false-positive testing for a specific factor inhibitor (eg, factor VIII or IX); see Advisory Information.

Clinical Reference

1. Hematology: Basic Principles and Practice. Seventh Edition. Edited by R Hoffman, EJ Benz Jr, LE Silberstein, et al. Elsevier, 2018

2. Kasper CK: Treatment of factor VIII inhibitors. Prog Hemost Thromb 1989;9:57-86

3. Laboratory Hematology Practice. Edited by K Kottke-Marchant. Wiley Blackwell Publishing, 2012

Performance

Method Description

This assay consists of measuring the difference in factor V activity (prothrombin time assay) before and after incubation of a mixture of normal plasma and patient's plasma for 1 hour at 37 degrees C. For optimal sensitivity, the factor V value of the normal plasma is adjusted to approximately 20%, because the factor V assay is more sensitive in this area of the curve. In addition, an excess of patient's plasma will make the test more sensitive to small amounts of inhibitors.(Owen CA Jr, Bowie EJW, Thompson JH Jr: The Diagnosis of Bleeding Disorders. Second edition. Little, Brown and Company, Boston, MA, 1975, pp 143-145; Meijer P, Verbruggen and Spannagi M: Chapter 33: Clotting factors and inhibitors: Assays and Interpretation. In Laboratory Hematology Practice. Edited by K Kottke-Marchant. Wiley Blackwell Publishing, 2012, pp 435-446)

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If the inhibitor screen is positive for an inhibitor of factor V, the inhibitor will be quantitated by the "Bethesda assays." In the Bethesda procedure, inhibitors are quantified by mixing equal volumes of serially diluted plasma with normal plasma. This mixture is incubated 2 hours at 37 degrees C, and its factor V activity is measured and compared to a control run at the same time. The difference between the factor V activity of the patient's incubation mixture and that of the control is used to calculate titer. The residual factor V activity is converted to "Bethesda units": 50% residual factor V is equal to 1 Bethesda unit.(Kasper CK, Aldedort LM, Counts RB, et al: A more uniform measurement of factor VIII inhibitors. Thromb Diath Haemorrh 1975;34:869-872; Meijer P, Verbruggen and Spannagi M: Chapter 33: Clotting factors and inhibitors: Assays and Interpretation. In Laboratory Hematology Practice. Edited by K Kottke-Marchant. Wiley Blackwell Publishing, 2012, pp 435-446)

PDF Report

No

Day(s) and Time(s) Test Performed

Monday through Friday

Analytic Time

1 day

Maximum Laboratory Time

3 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

See Individual Test IDs

CPT Code Information

85220-Factor V

85335-Factor inhibitor

85335-Bethesda units (if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
F5IS	Coag Factor V Inhibitor Scrn, P	In Process

Result ID	Test Result Name	Result LOINC Value
7808	Factor V Inhib Scrn	81124-0
FACTV	Coag Factor V Assay, P	3193-0