Test Definition: F_10

Coag Factor X Assay, P

Overview

Useful For

Diagnosing deficiency of coagulation factor X, congenital or acquired

Evaluating hemostatic function in liver disease

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 we suggest ordering Coagulation Consultations.

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.

Specimen Type: Platelet-poor plasma

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

Submission Container/Tube: Plastic vial

Specimen Volume: 1 mL

Collection Instructions:

1. Within 4 hours of collection, centrifuge, transfer all plasma into a plastic vial, and centrifuge plasma again. Aliquot plasma into separate plastic vial leaving 0.25 mL in the bottom of centrifuged vial.

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

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 X is a vitamin K-dependent serine protease that is synthesized in the liver. Its biological half-life is 24 to 48 hours. Factor X participates in both intrinsic and extrinsic pathways of coagulation (final common pathway) by serving as the enzyme (factor Xa) in the prothrombinase complex.

Congenital factor X deficiency is rare. Acquired deficiency associated with liver disease, warfarin therapy, vitamin K deficiency, systemic amyloidosis and inhibitors (rare). Deficiency may cause prolonged prothrombin time and activated partial thromboplastin time.

Reference Values

Adults: 70-150%

Normal, full-term newborn infants or healthy premature infants may have decreased levels (> or =15-20%) which may not reach adult levels for > or =180 days postnatal.*

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

Interpretation

Acquired deficiency is more common than congenital deficiency.

Homozygotes: <25%

Heterozygotes: 25% to 50%

Cautions

Liver disease, warfarin therapy, or vitamin K deficiency may lower factor X levels.

Clinical Reference

1. Girolami A, Scandellari R, Scapin M, Vettore S: Congenital bleeding disorders of the vitamin K-dependent clotting factors. Vitam Horm 2008;78:281-374

2. Brenner B, Kuperman AA, Watzka M, Oldenburg J: Vitamin K-dependent coagulation factors deficiency. Semin Thromb Hemost 2009 Jun;35(4):439-446

3. Menegatti M, Peyvandi F: Factor X deficiency. Semin Thromb Hemost 2009 Jun;35(4):407-415

4. Girolami A, Ruzzon E, Tezza F, et al: Congenital FX deficiency combined with other clotting defects or with other abnormalities: a critical evaluation of the literature. Haemophilia 2008;14(2):323-328

5. Girolami A, Scarparo P, Scandellari R, Allemand E: Congenital factor X deficiencies with a defect only or predominantly in the extrinsic or in the intrinsic system: a critical evaluation. Am J Hematol 2008;83(8):668-671

Performance

Method Description

The factor X 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 X-deficient substrate (normal plasma depleted of factor X 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. Second edition. Little, Brown and Company, Boston, MA. 1975; 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

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

85260

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
F_10	Coag Factor X Assay, P	3218-5

Result ID	Test Result Name	Result LOINC Value
F_10	Coag Factor X Assay, P	3218-5