

Overview

Useful For

Diagnosing deficiencies, particularly hemophilia B (Christmas disease)

Assessing the impact of liver disease on hemostasis

Investigation of a prolonged activated partial thromboplastin time

Testing Algorithm

See [Hemophilia Testing Algorithm](#) in Special Instructions.

Special Instructions

- [Coagulation Guidelines for Specimen Handling and Processing](#)
- [Hemophilia Testing Algorithm](#)

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

Patient Preparation: Patient must not be receiving Coumadin or heparin therapy.

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 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 IX is a vitamin K-dependent serine protease synthesized in the liver and participates in the intrinsic coagulation pathway. Its biological half-life is 18 to 24 hours.

Congenital deficiency inherited as an X-linked recessive bleeding disorder (hemophilia B). Severe deficiency (<1%) characterized by hemarthroses, deep tissue bleeding, excessive bleeding with trauma and ecchymoses.

Acquired deficiency associated with liver disease, vitamin K deficiency, warfarin therapy and inhibitors (rare).

Reference Values

Adults: 65-140%

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

*See Pediatric Hemostasis References section in [Coagulation Guidelines for Specimen Handling and Processing](#) in Special Instructions.

Interpretation

Acquired deficiency is more common than congenital.

Mild hemophilia B: 5% to 50%

Moderate hemophilia B: 1% to 5%

Severe hemophilia B: <1%

Cautions

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

Clinical Reference

1. Barrowcliffe TW, Raut S, Sands D, Hubbard AR: Coagulation and chromogenic assays of factor VIII activity: general aspects, standardization, and recommendations. *Semin Thromb Hemost* 2002 Jun;28(3):247-256
2. Franchini M, Lippi G, Favaloro EJ: Acquired inhibitors of coagulation factors: part II. *Semin Thromb Hemost* 2012 Jul;38(5):447-453
3. Carcao MD: The diagnosis and management of congenital hemophilia. *Semin Thromb Hemost* 2012 Oct;38(7):727-734

Performance**Method Description**

The factor IX assay is performed on the Instrumentation Laboratory ACL TOP using the activated partial thromboplastin time (APTT) method and a factor-deficient substrate. Patient plasma is combined and incubated with a factor IX-deficient substrate (normal plasma depleted of factor IX by immunoabsorption) and an APTT reagent. After a specified incubation time, calcium 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

85250

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
F_9	Coag Factor IX Assay, P	3187-2

Result ID	Test Result Name	Result LOINC Value
F_9	Coag Factor IX Assay, P	3187-2