Lab Dept:	**Coagulation**
Test Name:	**FACTOR IX ASSAY**

General Information

Lab Order Codes:	F9
Synonyms:	Hemophilia B; Christmas Disease; Auto-prothrombin II; Plasma Thromboplastin Component; PTC; Factor IX Activity
CPT Codes:	85250 – Clotting; factor IX (PTC or Christmas)
Test Includes:	Factor IX level reported as a %.

Logistics

Test Indications:	Useful for the detection of a single factor congenital homozygous or heterozygous deficiency or acquired due to Vitamin K deficiency or liver disease.
Phone Numbers:	MIN Lab: 612-813-6280 STP Lab: 651-220-6550
Test Availability:	Daily, 24 hours; Testing is performed at Minneapolis Laboratory only.
Turnaround Time:	4 hours
Special Instructions:	Patient should not be receiving heparin. If so, this should be noted on the request form. Heparin therapy can affect certain coagulation factors or assays, preclude their performance, or cause spurious results. Indicate when specimen is drawn from a line or a heparin lock. Deliver immediately to the laboratory.

Specimen

Specimen Type:	Whole blood
Container:	Light Blue top (Buffered Na Citrate 3.2%) tube
Draw Volume:	1.8 mL blood (in 2 mL tube) or 2.7 mL blood (in a 3 mL tube).
Processed Volume:	0.9 mL plasma
Collection:	● A clean venipuncture is essential, avoid foaming. ● Entire sample must be collected with single collection, pooling of sample is unacceptable.

● Capillary collection is unacceptable.
● Patient's with a hematocrit level >55% must have a special tube made to adjust for the hematocrit; contact lab for a special tube.
● Mix thoroughly by gentle inversion. Deliver immediately to the laboratory at room temperature via courier or pneumatic tube.

Off campus collections:
● Must be tested within 4 hours.
● Do not refrigerate.
● If not received in our lab within 4 hours of collection, sample must be centrifuged and *platelet-poor plasma removed from cells and transferred to an aliquot tube being careful not to disturb the cell layer. Centrifuge the plasma a second time and transfer into a clean aliquot tube being careful not to include any residual platelets on the bottom of the tube. Freeze at -20°C and deliver to the lab on dry ice within 2 weeks.
***Validation of your lab's centrifuge for platelet poor plasma is required.**

Special Processing:

Lab staff: Centrifuge in Stat Spin for 5 minutes or 10 minutes at 3000 rpm at room temperature. For primary tube testing, leave plasma on cells OR remove plasma and place in a 4 mL plastic cup; allow for 100 mL of dead-space.

Test within:
● Four (4) hours when stored in the capped tube above the packed cells 18 to 24°C.
● Four (4) hours as plasma that has been separated from cells by centrifugation when stored 2 to 8°C or 18 to 24°C.
● Two (2) weeks when stored -20°C.
● Six (6) months when stored -70°C (rapidly frozen).
● Plasma must be frozen if testing cannot be completed within four (4) hours.
● Frozen plasmas are thawed at 37°C for three (3) minutes, test immediately.

Patient Preparation:

Avoid heparin therapy for two days prior to the test.

Sample Rejection:

Improper tube; clotted samples; under-filled tubes; mislabeled or unlabeled specimens

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Interpretive

Reference Range:

Age	**Range**

0 - 1 days:	34 - 72%
2 - 5 days:	34 - 72%
6 - 30 days:	36 - 66%
31 - 90 days:	44 - 90%
91 - 180 days:	61 - 111%
6 months - 5 years:	47 - 104%
6 - 10 years:	63 - 89%
11 - 16 years:	82 - 122%
>16 years:	55 - 165%

Critical Values: N/A

Limitations: Interpretation of the results may be limited if patient is receiving anticoagulant therapy or if test is done more than 2 hours after collection. Results will be increased in patients taking oral contraceptives.

Methodology: Thromboplastin clotting time correction of Factor 9 deficient plasma. Patient dilutions are compared to a known set of standard dilutions and a percentage is determined.

Contraindications: Patient on anticoagulant therapy.

References:

Andrew M et al (1987) Development of the Human Coagulation System in the Full Term Infant, Blood 70:165-72

Andrew M et al (1988) Development of the Human Coagulation System in the Premature Infant, Blood 72:1651-57

Andrew M et al (1992) Development of the Human Coagulation System During Childhood, Blood 80:1198-2005

Updates: 5/24/2010: Tubing of patient specimens is no longer prohibited.
12/15/2010: Processing information updated.
9/15/2014: Added Off Campus collection info.

7/18/23: Updated special processing instructions. Testing performed at Minneapolis location only.