
Lab Dept: Coagulation

Test Name: FACTOR XII ASSAY

General Information

Lab Order Codes: F12

Synonyms: Hageman Factor; XIIa; Factor XII Activity, Factor 12

CPT Codes: 85280 - Clotting factor XII (Hageman)

Test Includes: Factor XII level reported as a %.

Logistics

Test Indications: Useful for the detection of a single factor congenital homozygous or heterozygous deficiency.

Lab Testing Sections: Coagulation

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours; Testing performed in 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 3 hours.
- Do not refrigerate.
- If not received in our lab within 3 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:

- Three (3) hours when stored in the capped tube above the packed cells 18 to 24°C.
- Three (3) 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 Three (3) 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

Interpretive

Reference Range:

Age	Range
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0 – 1 day:	33 – 73%
2 – 5 days	29 – 65%
6 – 30 days:	33 – 65%
31 – 90 days	46 – 88%
91 – 180 days:	58 – 96%
6 months – 5 years:	64 – 129%
6 – 10 years:	60 – 140%
11 – 16 years:	34 – 137%
>16 years:	52 – 164%

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.

Methodology:

Thromboplastin clotting time correction of Factor 12 deficient plasma. Patient dilutions are compared to a known set of standard dilutions and a percentage is determined.

Contraindications:

Patient on anticoagulant therapy.

References:

Harmening DH (1997) Clinical Hematology and Fundamentals of Hemostasis

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

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

Andrew M et al (1992) Development of the Human Coagulation System During Childhood, Blood 80:1998-2005

Updates:

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

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

5/7/2025: updated stability from 4 to 3 hours per manufacturers instruction.