
Lab Dept: Coagulation

Test Name: FACTOR VIII ASSAY, CHROMOGENIC

General Information

Lab Order Codes: F8C

Synonyms: AHF; AHG; Antihemophilic Factor; FVIII, VIIIIC; Factor VIII Activity, Factor 8 Chromogenic

CPT Codes: 85130 – Factor VIII Chromogenic

Test Includes: Factor VIII level reported as a % using the chromogenic method

Logistics

Test Indications: Useful for the detection of a single factor congenital deficiency for Hemophilia A or von Willebrand's disease or an acquired deficiency due to liver disease or DIC.

Lab Testing Sections: Coagulation (Performed on Minneapolis Campus)

Phone Numbers: MIN Lab: 612-813-6280

Test Availability: Daily, 24 hours

Turnaround Time: 4 hours

Special Instructions: Patient should not be receiving heparin. If so, this should be noted on the request form. Heparin therapy will affect certain coagulation factors or assays, preclude

Specimen

Specimen Type: Whole blood

Container: Light Blue top (Buffered Na Citrate 3.2%) tube

Draw Volume: 2.7 mL blood

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 distribute 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 degrees 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: Spin sample collected in blue top tube(s) for 5 minutes on the Stat Spin centrifuge, remove plasma and transfer to a 4 mL BCS sample cup(s), spin remaining plasma again for 5 minutes in the Stat Spin centrifuge. Transfer plasma to new BCS sample cup(s) for analysis (as specifically stated in each procedure) leaving approximately 200 mcL in the bottom of the original cup to discard.

Patient Preparation:

Avoid heparin therapy for two days prior to the test.

Sample Rejection:

Improper tube; clotted samples; underfilled tube; mislabeled or unlabeled specimens

Interpretive**Reference Range:**

Age	Range (%)
0 – 1 day	61 – 139%
2 – 5 days	55 – 121%
6 – 30 days	58 – 124%
31 – 90 days	56 – 102%
91 – 180 days	55 – 91%
6 months – 5 years	59 – 142%

11 – 16 years	53 – 131%
>16 years	50 – 150%

Critical Values:

N/A

Limitations:

Direct Factor Xa inhibitors (Rivaroxaban, Apixaban) may result in decreased Chromogenic Factor VIII values.

Methodology:

Factor VIII in the sample is activated by thrombin. Activated Factor VIII then accelerates the conversion of Factor X into Factor Xa in the presence of activated Factor IX, phospholipids and calcium ions. The Factor Xa activity is assessed by hydrolysis of p-nitroanilide substrate specific to Factor Xa. The initial rate of release of p-nitroanilide measured is proportional to the Factor Xa activity, thus to the Factor VIII activity of the sample.

Contraindications:

Patient on anticoagulant therapy.

References:

Andrew M et al (1987) Development of the Human Coagulation System in the Full-Term Infant, Blood 70:165-57

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 Early Childhood, Blood 80:1998-2005