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**Lab Dept:** Coagulation

**Test Name:** FACTOR II ASSAY

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***General Information***

**Lab Order Codes:** F2

**Synonyms:** Prothrombin assay; Factor II Activity

**CPT Codes:** 85210 - Clotting; factor 2, prothrombin, specific

**Test Includes:** F2 level reported as a %.

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***Logistics***

**Test Indications:** Useful for the detection of a single factor congenital homozygous or heterozygous deficiency or acquired due to Vitamin K deficiency, liver disease or cystic fibrosis.

**Lab Testing Sections:** Coagulation

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**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 or Warfarin 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.

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***Specimen***

**Specimen Type:** Whole blood

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

**Draw Volume:** 2.7 mL whole 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 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: 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 Coumadin® therapy for two weeks and heparin therapy for two days prior to the test.

**Sample Rejection:**

Improper tube; clotted sample; underfilled tube; overfilled tube; mislabeled or unlabeled specimens

**Interpretive**

**Reference Range:**

Age	Range
0 - 1 days:	37 - 50%
2 - 5 days:	48 - 78%
6 - 30 days:	51 - 85%
31 - 90 days:	60 - 90%
91 - 180 days:	74 - 102%
6 months - 5 years:	71 – 116%
6 - 10 years:	67 - 107%

11 - 16 years:	61 - 104%
>16 years	70 - 246%

**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 4 hours after collection.

**Methodology:**

Thromboplastin clotting time correction of Factor 2 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 Term 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: Add Off Campus collection info.