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**Lab Dept:** Coagulation

**Test Name:** PT MIXING STUDIES

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***General Information***

**Lab Order Codes:** PTM

**Synonyms:** Protime Mixing Study; Prothrombin Time Mixing Study; Simple PT Mixing Study

**CPT Codes:** 85611 - Prothrombin time: substitution, plasma fractions, each

**Test Includes:** PT 1:2 dilution reported in seconds.

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***Logistics***

**Test Indications:** Useful for detecting the presence/absence of an inhibitor or the absence of specific coagulation factors.

**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's with hematocrit levels >55% must have a special tube made to adjust for the hematocrit; contact the laboratory for special tube.
- Specimen must arrive within 30 minutes of collection.
- Indicate when specimen is drawn from a line or a heparin lock.

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***Specimen***

**Specimen Type:** Whole blood

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

**Draw Volume:** 2.7 mL blood

**Processed Volume:** 1 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 for 5 minutes on the Stat Spin centrifuge, remove plasma and transfer to a 4 mL BCS sample cup. Spin remaining plasma again for 5 minutes in the Stat Spin Centrifuge. Transfer plasma to a new BCS sample cup for analysis leaving approximately 200 uL in the bottom of the original cup to discard.

## Test within:

- Four (4) hours when stored as plasma remaining 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:**

None

**Sample Rejection:**

Improper tube, Clotted specimen, Underfilled tubes, Overfilled tubes, Specimen more than 2 hours old, Mislabeled or unlabeled specimens

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**Interpretive****Reference Range:**

If an inhibitor is present the PT will not correct into the normal range. If the patient is lacking specific coagulation factors the PT will demonstrate significant correction.

<b>Critical Values:</b>	N/A
<b>Limitations:</b>	Correction reactions may be difficult if the patient's PT is only modestly prolonged. Samples drawn through line or heparin lock will not correct giving the impression of an inhibitor.
<b>Methodology:</b>	PT based correction of patient's plasma with normal plasma.
<b>Contraindications:</b>	Current anticoagulant therapy.
<b>References:</b>	Harmening DH (1997) Clinical Hematology and Fundamentals of Hemostasis
<b>Updates:</b>	7/19/2006: Removed statement, "Do not transport by pneumatic tube". 12/14/2010: Updated processing information. 8/19/2013: Updated specimen stability information. 9/15/2014: Added Off Campus collection info.