
Lab Dept: Coagulation

Test Name: PROTIME AND INR

General Information

Lab Order Codes: PT

Synonyms: PT; Protime; Prothrombin Time and INR

CPT Codes: 85610 - Prothrombin time

Test Includes: PT reported in seconds and INR

Logistics

Test Indications: Useful for evaluating the extrinsic and common pathways of the coagulation system; aid in screening for congenital deficiencies of factors II, V, VII, and X, dysfibrinogenemia, afibrinogenemia, Coumadin effect, liver disease, disseminated intravascular coagulation (DIC), and vitamin K deficiency.

Lab Testing Sections: Coagulation

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours; Testing performed at Minneapolis and St. Paul Laboratories.

Turnaround Time: 2 hours

Special Instructions: 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: Minimum: 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 24 hours.
- Do not refrigerate.
- If not received in our lab within 24 hours of collection, sample must be centrifuged and *platelet-poor plasma removed from cells and transferred to an aliquot 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 uL of dead space.

Test within:

- Twenty-four (24) hours when stored as plasma remaining in the capped tube above the packed cells 18 to 24°C, centrifuged or not.
- 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 (24) hours.
- Frozen plasmas are thawed at 37°C for three (3) minutes, test immediately.

Patient Preparation:

None

Sample Rejection:

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

Interpretive

Reference Range:

Test	All ages
PT:	8.7 – 12.4 seconds
INR:	0.8 – 1.20
Note: Extremely high results will be reported as PT >90.0, INR >9.0	

Critical Values: PT: >17.0 seconds
INR: >1.7

Limitations: N/A

Methodology: Timed, Clot-based assay

References: Harmening DH (1997) Clinical Hematology and Fundamentals of Hemostasis

Updates: 2/17/2005: Critical value for INR previously listed as >1.5.
7/19/2006: Removed statement, "Do not transport by pneumatic tube".
7/25/2006: Added Oral Anticoagulant therapeutic ranges.
1/30/2008: Edited reference ranges: PT previously reported as: 10.6 – 15.5 seconds, critical value previously reported as: >21.2
8/19/2013: Updated specimen stability information.
9/25/2014: Added Off Campus collection info

7/11/2023: Updated reference range to match linearity of instrument, methodology.

7/18/23: Updated testing performed at both MPLS and STP locations. Removed ref ranges for Coumadin therapy, they are listed in the WPT.