

# INR

## Prothrombin time, thromboplastin time, Quick test, PT

### General:

The prothrombin time tests the exogenous coagulation system (factors VII, X, V, II and I). PT indirectly reflects the protein synthesis activity of the liver since all these factors are synthesized in the liver. Vitamin K antagonists (coumarin/warfarin) disturb the synthesis of four procoagulatory effective coagulation factors II, VII, IX and X.

The following tests are available:

#### • PT and INR

**Indication:** Screening test for plasmatic coagulation disturbances (factor defect of the prothrombin complex, factor V, fibrinogen, at dysfibrinogenemia), monitoring vitamin K antagonist therapy (coumarin, marcumar), monitoring in vitamin K deficiency and liver diseases.

**Material:** 3 ml citrate plasma (frozen)

**Stability:** 15 to 25°C (RT) within 24 hours. If the testing is not completed within 24 hours, platelet -poor plasma should be stored frozen at -20 °C or below for short term storage (up to 4 weeks) or -70°C for long term storage. Frozen plasma should be rapidly thawed at 37°C, then gently mixed and tested immediately.

**TAT:** same day, FML

**Method:** COAG

**Units:** %

**Ref.- range:** 70 – 120

**Preanalytic:** citrate blood in citrate-monovette, fill monovette up to the mark! Send immediately to the laboratory! Optional for dispatch: send frozen citrate plasma.

**Note:** According to WHO, INR-value (International Normalized Ratio) is valid as a standardized result. The international sensitivity index (ISI) value compares to a reference thromboplastin. ISI values at approx. 1.0 highly correspond to the WHO standard. The ISI value is range- and device dependent and must be declared in instruction leaflets. Calculation:  $INR = [TPZPat (sec)/TPZCal (sec.)]^{ISI}$  Example:  $INR = [patient: 32.5 sec./normal: 11.1 sec.]^{0.96} = 2.80$  The ratio anticoagulant (sodium citrate 3.8%) to blood must be exactly 1+9!

Relationship between INR and Prothrombin time (Quick), % values



INR	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
%	100	51	33	25	20	16	14	12	11

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit <http://www.fml-dubai.com/parameter-listings/>