

# Thrombokinase

see also **Clotting factors**

General:

Factor 10 (factor X), also known by the eponym Stuart-Prower factor or as thrombokinase, is an enzyme of the coagulation cascade. It is a serine endopeptidase (protease group S1). Factor X is synthesized in the liver and requires vitamin K for its synthesis.

Factor X is activated into factor Xa by both factor IX (with its cofactor, factor VIII in a complex known as intrinsic Xase) and factor VII with its cofactor, tissue factor (a complex known as extrinsic Xase). It is therefore the first member of the final common pathway or thrombin pathway.

Factor Xa is inactivated by protein Z-dependent protease inhibitor (ZPI), a serine protease inhibitor (serpin). The affinity of this protein for factor Xa is increased 1000-fold by the presence of protein Z, while it does not require protein Z for inactivation of factor XI. Defects in protein Z lead to increased factor Xa activity and a propensity for thrombosis. The half life of factor X is 40-45 hours.

The human factor X gene is located on the thirteenth chromosome (13q34). Inborn deficiency of factor X is very uncommon (1:500,000), and may present with epistaxis, hemarthrosis and gastrointestinal blood loss. Apart from congenital deficiency, low factor X levels may occur occasionally in a number of disease states. For example, factor X deficiency may be seen in amyloidosis, where factor X is adsorbed to the amyloid fibrils in the vasculature.

Deficiency of vitamin K or antagonism by warfarin (or similar medication) leads to the production of an inactive factor X. In warfarin therapy, this is desirable to prevent thrombosis.

Material: 1.0 ml citrate plasma frozen

TAT: 7-10 days\*

Method: electrophoretic

Units: %

Ref.- range: 70.0 - 120

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