

[Biochemistry \(Mosc\)](#). 1997 Jul;62(7):685-93.

Factor IX of the blood coagulation system: a review.

[Taran LD](#).

Palladin Institute of Biochemistry, Ukrainian National Academy of Sciences, Kiev, Ukraine.

Factor IX is a factor of the blood coagulation system. Its activation occurs on the surface of phospholipid membranes. It can be activated by the factor VIIIa-TF (tissue factor)-Ca²⁺ complex via an extrinsic pathway and by factor XIa in the presence of Ca²⁺ via the intrinsic pathway of blood coagulation system activation. The activated factor IXa is a serine proteinase. The main function of the activated factor IXa in complex with factor VIIIa and phospholipids in presence of Ca²⁺ consists of the activation of factor X. Factor IX is synthesized in the liver and is subject to a number of posttranslational modifications including gamma-carboxylation, beta-hydroxylation, and glycosylation. It forms a subgroup of vitamin K-dependent plasma proteins including factors VII and X and protein C characterized by identical domain structures having high levels of homology. Factor IX consists of an NH₂-terminal Gla domain, two epidermal growth factor (EGF)-like domains, and a C-terminal domain containing Ser in its active site. Factor IX deficiency in human plasma results in the disease known as hemophilia B.