

Active Native Bovine Factor IX

Cat. No. F9-266B Lot. No. (See product label)

SPECIFICATION

Product Overview

Species Bovine

Source Plasma

Description

The zymogen factor IX is a single chain vitamin K-dependent glycoprotein which is synthesized in the liver. The domain structure of factor IX is similar to that of the other vitamin K dependent coagulation factors. The NH₂-terminal region contains 12 γ-carboxyglutamic acid (gla) residues which facilitate the calcium dependent binding of factor IX to negatively charged phospholipid surfaces. Two domains which are homologous to epidermal growth factor (EGF) span the region between the NH₂-terminal gla domain and the activation peptide (Ala-146 to Arg-180). Factor IX is activated by either factor XIa or the factor VIIa/tissue factor/phospholipid complex. Cleavage at site A (see figure) yields the intermediate IXa which is subsequently converted to the fully active form IXaβ by cleavage at site B. The NH₂-terminal light chain (GLA and EGF domains) remains covalently attached to the COOH-terminal heavy chain by a disulfide bond. The serine protease catalytic triad (Ser-365, His 221, Asp-269) is located in the heavy chain. Factor IXaβ is the catalytic component of the "intrinsic factor Xase complex" (factor VIIIa/IXa/Ca²⁺/phospholipid) which proteolytically activates factor X to factor Xa.

Form 50% (vol/vol) glycerol/H₂O

Bio-activity Clotting assay

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Molecular Mass	55400
Purity	>95% by SDS-PAGE. NOT tissue/cell culture grade. Not tested for endotoxin.
Characteristic	Extinction coefficient:12.0, Isoelectric point:3.7, Percent carbohydrate:0.26, Structure:single chain, NH2-terminal gla-domain, two EGF domains
Storage	-20°C
GENE INFORMATION	
Gene Name	F9 coagulation factor IX [Bos taurus]
Official Symbol	F9
Synonyms	coagulation factor I; Xchristmas factor; plasma thromboplastic component; coagulation factor IX (plasma thromboplastic component, Christmas disease, hemophilia B)
Gene ID	280688
mRNA Refseq	NM_001103220
Protein Refseq	NP_001096690
Chromosome Location	Xq32-q33
Pathway	Complement and Coagulation Cascades, organism-specific biosystem; Complement and coagulation cascades, organism-specific biosystem; Extrinsic Pathway, organism-specific biosystem

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Function

calcium ion binding; serine-type endopeptidase activity

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