

Active Native Bovine Factor V

Cat. No. F5-284B **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Species Bovine

Source Plasma

Description

Factor V is a large, single chain, plasma glycoprotein which is an essential component in the blood coagulation cascade. During coagulation, the procofactor, factor V, is converted to the active cofactor, factor Va, via limited proteolysis by the serine protease alpha-thrombin (illustrated above), and less efficiently by factor Xa. The active cofactor is composed of an NH₂-terminal derived heavy chain (Mr=94,000) and a COOH-terminal derived light chain (Mr=74,000) which remain non-covalently associated in the presence of calcium ions. Factor Va serves as a cofactor for the serine protease factor Xa. Factor Va and Xa assemble on a phospholipid surface in a non-covalent and calcium ion-dependent manner, to form the prothrombinase complex. The prothrombinase complex is responsible for the rapid conversion of the zymogen prothrombin to the active serine protease, alpha-thrombin. Assembly of the prothrombinase complex increases the rate at which prothrombin is converted to thrombin by nearly 300,000-fold relative to the rate with factor Xa alone. Down regulation of the prothrombinase complex is accomplished partly through the inactivation of factor Va by activated protein C.

Form 50% (vol/vol) glycerol/H₂O

Bio-activity Clotting assay

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Molecular Mass	330000
Purity	>95% by SDS-PAGE. NOT tissue/cell culture grade. Not tested for endotoxin.
Characteristic	Extinction coefficient: 9.6, Plasma concentration:35 µg/ml , Percent carbohydrate: approximately 25% , Structure:one subunit, 2196 amino acids
Storage	-20°C

GENE INFORMATION

Gene Name	F5 coagulation factor V (proaccelerin, labile factor) [Bos taurus]
Official Symbol	F5
Synonyms	coagulation factor V; activated protein C cofactor
Gene ID	280687
mRNA Refseq	NM_173879
Protein Refseq	NP_776304
UniProt ID	Q28107
Chromosome Location	chromosome: 16
Pathway	Complement and Coagulation Cascades, organism-specific biosystem; Complement and coagulation cascades, organism-specific biosystem; Complement and coagulation cascades, conserved biosystem

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Function	copper ion binding
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