

Factor XIa (Bovine)

1.00 mg

Ref#: BF11A

Lot#: xxxxxx

Exp. Date: xxxx-xx



For Research Use Only
Not for Use in Diagnostic Procedures
For *in vitro* use only

Description:	Factor XIa (Bovine)
Format:	Lyophilized in 50 mM Tris / 0.1 M NaCl / pH 7.8
Host:	Bovine
Storage:	Store between +2 and +8°C After reconstitution aliquot and freeze at ≤ -60°C
Reconstitution:	We recommend hydrating the protein with sterile water to the original volume
Volume:	Vial containing 0.420 mL
Total Protein:	1.00 mg
Concentration:	2.38 mg/mL before lyophilisation by Absorbance; Extinction Coefficient $E^{1\%}_{280} = 13.1$

Bovine Coagulation Factor XI (FXI) is a two-chain glycoprotein synthesized in the liver. The two chains are identical disulfide bonded polypeptides with molecular weights of approximately 55 kDa.

Cleavage of FXI by activated Factor XII or Thrombin converts each subunit into a two-chain form and generates two active sites per FXIa molecule. In plasma, FXI or FXIa circulates in non-covalent 1:1 complex with HMW Kininogen, which acts as a cofactor in the activation of FXI by activated Factor XII. The activity of FXIa is regulated by platelets and by several proteinase inhibitors including, in order of decreasing importance, C1-Inhibitor, α -2-Antiplasmin, α -1-Antitrypsin and Antithrombin. Heparin has relatively little effect on the rate of inhibition of FXIa by Antithrombin. The only known natural substrate for activated FXIa is Factor IX (Christmas factor) and the only cofactor required for this reaction is ionized calcium.

This Factor XIa is a potent activator of both Human and Bovine Factor IX.

Bovine Factor XIa is purified from Bovine Plasma using a combination of salt precipitations and activation on a negative surface. The protein is >95% pure via SDS-PAGE and shows complete reduction upon incubation with 2-mercaptoethanol.

All bovine material is from USDA inspected herd pre and post mortem. All material is from U.S. cows ≤ 30 months age.