Active Native Bovine Protein C

Cat. No. PROC-269B **Lot. No.** (See product label)

SPECIFICATION

Species	Bovine
Source	Plasma
ProteinLength	1-456 aa
Description	The vitamin K-dependent zymogen, protein C, is synthesized in the liver as a single chain polypeptide and is subsequently converted to a disulfide linked heterodimer, by removal of a dipeptide (Lys-146 and Arg-147) from the precursor molecule. Trace quantities of the single chain form have been observed in plasma. The light chain, which is responsible for the calcium dependent binding of protein C to phospholipid vesicles, contains 11 γ-carboxyglutamic acid (gla) residues, 1 b-hydroxyaspartic acid residue, and 2 epidermal growth factor (EGF) homology domains. The serine protease catalytic triad is located in the heavy chain. Human protein C is susceptible to proteolytic cleavage of a peptide (Mr=3000) from the COOH-terminal end of the heavy chain, yielding an altered form referred to as β-protein C. No functional distinction between α- and β-protein C has been observed. A single cleavage at Arg-12 (Arg-14 in bovine) of the heavy chain of human protein C converts the zymogen into the serine protease, activated protein C. This cleavage is catalyzed by a complex between α-thrombin and the endothelial cell surface protein thrombomodulin. In contrast to the other vitamin K dependent coagulation factors, activated protein C functions as an anticoagulant by catalyzing the proteolytic inactivation of factors Va and VIIIa. APC also contributes to the fibrinolytic response by complex formation with plasminogen activator inhibitors.

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Form	50% (vol/vol) glycerol/H2O
Bio-activity	< 0.5%="" apc="" activity="" by="" chromogenic="">
Molecular Mass	58000
Purity	>95% by SDS-PAGE. NOT tissue/cell culture grade. Not tested for endotoxin.
Characteristic	Extinction coefficient:13.7, Plasma concentration:5-10 µg/ml, Isoelectric point:4.2-4.5, Percent carbohydrate:0.14, Structure: two chains, Mr=41,000 and 21,000, disulfide linked, NH2-terminal gla domain two EGF domains
Storage	-20°C

GENE INFORMATION

Gene Name	PROC protein C (inactivator of coagulation factors Va and VIIIa) [Bos taurus]
Official Symbol	PROC
Synonyms	vitamin K-dependent protein C; autoprothrombin IIA; anticoagulant protein C; blood coagulation factor XIV
Gene ID	281428
mRNA Refseq	NM_001166512
Protein Refseq	NP_001159984
Chromosome Location	2q12

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Pathway	Cell surface interactions at the vascular wall, organism-specific biosystem; Complement and Coagulation Cascades, organism-specific biosystem; Complement and coagulation cascades, conserved biosystem
Function	calcium ion binding; serine-type endopeptidase activity

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