

Active Native Human Factor I

Cat. No. CFI-105H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Species Human

Source Human Serum

Description

Human factor I is purified from normal human serum (Fearon, D.T. (1977)). Factor I is a naturally glycosylated serine protease which cleaves and inactivates C3b and C4b. Factor I is highly specific but inactive without a cofactor such as the soluble factor H and C4b binding protein (C4BP) (Pangburn, M.K. et al (1977)). Membrane-bound cofactors include CR1 (complement receptor 1 (CD35) which is found on human red cells and other lymphoid cells) and MCP (membrane cofactor protein (CD46) which is found on most human nucleated cells). Factor I cleaves the alpha-peptide chain of C3b and C4b when these are bound to one of the cofactors. This cleavage inactivates all of the complement activating functions of these proteins producing iC3b and iC4b. Factor I can cleave the alpha chain of C3b twice and this releases a small fragment called C3f (17 amino acids, ~3 kDa). In the presence of CR1 factor can cleave iC3b releasing C3c from C3dg. C4b is cleaved rapidly at two sites separating C4c from C4d. Nomenclature for this protein has changed over time and it has been called C3b inactivator (C3b-INA), C3b/C4b inactivator, and conglutinin-activating factor (KAF).

Form Frozen liquid

Bio-activity Cleaves C3b with factor H as a cofactor.

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Molecular Mass	88,000 Da (2 chains)
Purity	>95% by SDS-PAGE
Characteristic	Molecular weight: 88,000 daltons composed of 2 disulfide-linked chains of 50,000 and 38,000 daltons. It is synthesized as a single chain molecule. The protein is heavily glycosylated with at least 6 glycosylation sites (3 on each chain) (Morley, B.J. et al. (2000)). The total carbohydrate content is approximately 10.7 %. The protein is negatively charged at serum pH and exhibits a heterogeneous pI = 4.5 to 6.0 due primarily to differences in sialic acid content.
Usage	For research use only. Not for human or drug use.
Storage	-70°C or below. Avoid freeze/thaw.
Preservative	None, 0.22 µm filtered
Warning	Use normal precautions for handling human blood products.

GENE INFORMATION

Gene Name	CFI complement factor I [Homo sapiens]
Official Symbol	CFI
Synonyms	CFI; complement factor I; I factor (complement) , IF; C3b INA; C3b inactivator; FI; KAF; Konglutinogen activating factor; C3b-inactivator; C3B/C4B inactivator; complement component I; light chain of factor I; Konglutinogen-activating factor; complement fa
Gene ID	3426

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mRNA Refseq	NM_000204
Protein Refseq	NP_000195
MIM	217030
UniProt ID	P05156
Chromosome Location	4q25
Pathway	Complement and coagulation cascades, organism-specific biosystem; Complement and coagulation cascades, conserved biosystem; Complement cascade, organism-specific biosystem; Immune System, organism-specific biosystem; Innate Immune System, organism-specific biosystem; Regulation of Complement cascade, organism-specific biosystem; Staphylococcus aureus infection, organism-specific biosystem;
Function	peptidase activity; scavenger receptor activity; serine-type endopeptidase activity;