

Active Native Human Complement Factor P (Properdin)

Cat. No. CFP-106H Lot. No. (See product label)

SPECIFICATION

Species Human

Source Human Serum

Description

Complement factor P (properdin) is purified from normal human serum. Factor P is a 53,000 dalton cationic protein that circulates in blood in the form of dimers, trimers and tetramers. It binds rapidly to C3b on surfaces where complement has begun to activate. Properdin binds most avidly to C3b,Bb the alternative pathway C3/C5 convertase, but also binds to C3b < c3b,b c3b,bb. its primary function is to stabilize the c3b,bb complex allowing increased alternative pathway activation (pangburn, m.k., (1988); nolan, k.f. and reid, k.b.m. (1993)). properdin enhances formation of the alternative pathway c3 convertase by increasing binding of factor b to p,c3b complexes. thus, properdin is an accelerator (positive regulator) of complement activation. properdin has recently been proposed to be able to also initiate activation of the alternative pathway by binding to the target surface and initiating c3/c5 convertase formation (kemper c. and hourcade d.e.

Form Frozen liquid

Bio-activity >70% versus normal human serum standard

Molecular Mass 53,000 Da (single chain)

Purity >90% by SDS-PAGE

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Characteristic

The basic subunit of this protein is a 53,000 dalton single chain molecule which is composed of six thrombospondin-like repeat (TSR) domains. These basic units are linked at the ends (C-terminal to N-terminal) to form circular dimers, trimers, tetramers and perhaps higher forms in blood (Pangburn, M.K. (1989)). Electron microscopic images (Smith, C.A. et al. (1984)) have clearly demonstrated these structures. Higher oligomers of properdin are formed upon freeze thaw and perhaps during complement activation and were originally called "activated" properdin due to their enhanced ability to bind and activate complement. Properdin has a rare post-translational modification in that its tryptophan residues are highly mannosylated (Hartmann, S. and Hofsteenge, J. (2000)). There is also a single N-linked glycosylation site near the C-terminal. These contribute to a carbohydrate content estimated at 10%. Properdin is highly positively charged at neutral pH and has a pI greater than 9.5. It is one of the most positively charged proteins in blood (Morley, B.J. and Walport, M.J. (2000)).

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

CFP complement factor properdin [*Homo sapiens*]

Official Symbol

CFP

Synonyms

CFP; complement factor properdin; PFC, properdin P factor, complement; properdin; complement factor P; properdin P factor, complement; BFD; PFC; PFD; PROPERDIN;

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Gene ID	5199
mRNA Refseq	NM_001145252
Protein Refseq	NP_001138724
MIM	300383
UniProt ID	P27918
Chromosome Location	Xp11.4
Pathway	Herpes simplex infection, organism-specific biosystem; Herpes simplex infection, conserved biosystem;

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