

Native purified cobra venom factor

Cat. No. CVF-01I Lot. No. (See product label)

SPECIFICATION

Product Overview

Many types of venom contain components that activate complement. A major component of cobra venom is CVF which binds to the victim's factor B and this is then activated by factor D forming CVF,Bb. CVF, Bb is a serine protease specific for the victim's C3 and often C5 as well. The activity of this C3/C5 convertase is not affected by the complement regulatory proteins in blood and the complex is extremely stable (half-life approximately 7 hours) (Morgan, B.P. ed. (2000); Law, S.K.A. and Reid, K.B.M. (1995); Nolan, K.F. and Reid, K.B.M. (1993)). It is thought that the release of C3a is important for dilation of the blood vessels near the bite and this aids dispersion of the other venom components. C5a release provides a systemic activation of numerous immune cells and inflammatory reactions. CVF from naja naja kaouthia produces an enzyme that cleaves both human C3 and C5. The affinity of the naja naja kaouthia CVF for C5 is so high that it primarily consumes C5 first, then C3.

Species

Naja naja kaouthia

Source

Venom from the Indian cobra naja naja kaouthia

Description

CVF is a 146,000 dalton protein homologous to snake C3, but it is highly processed by proteases to a form that functions like C3b. Due to this extensive proteolysis the protein exists in many isoforms which vary in chain structure, but the most prominent species possesses three disulfide-linked chains (68,000, 48,000 and 30,000 daltons).

Form

Frozen liquid. 10 mM sodium phosphate, 145 mM NaCl, pH 7.2

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Bio-activity	>300 units/mg
Molecular Mass	146,000 Da (multiple chains and isoforms)
Purity	>95% by SDS-PAGE
Applications	CVF has been widely used in animal studies to examine the role of the complement system in disease.
Storage	-70 centigrade or below. Avoid repeated freeze/thaw.
Concentration	1.0 mg/mL

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