

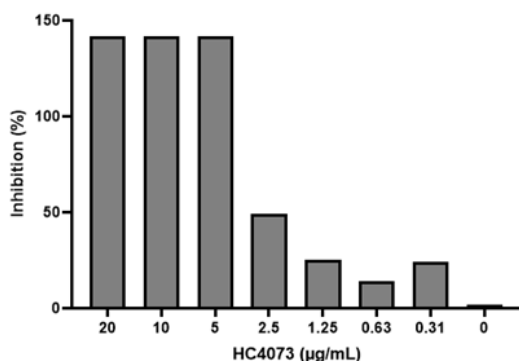
## CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

<b>Product name</b>	Cobra Venom Factor, Recombinant		
<b>Catalog number</b>	HC4073-50UG		
<b>Lot number</b>	xxxxxXxxxx	<b>Expiry date</b>	MMM YYYY
<b>Volume</b>	500 µl	<b>Activity</b>	ED50% was obtained with xx µg/ml.
<b>Formulation</b>	PBS	<b>Amount</b>	50 µg
<b>Host species</b>	N.A.	<b>Concentration</b>	100 µg/ml
<b>Endotoxin level</b>	<24 EU/mg	<b>Purification</b>	N.A.
<b>Storage</b>	-80°C	<b>Purity</b>	> 95%

### Application notes

	IHC-F	IHC-P	IF	FC	FS*	IA	IP	W
Reference #								
Yes					•			•
No								
N.D.	•	•	•	•		•	•	

N.D. = Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot



FS: Recombinant CVF (HC4073) different concentrations in an antibody-sensitized sheep erythrocytes experiment. **Note: This is an example CoA-TDS, the one received will be lot specific.**

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions.

- W: A reduced sample treatment and SDS-Page was used. The band size is ~150 kDa.
- FS: Complement activation after incubation with CVF is tested by the lysis of sheep red blood cells. The serum was preincubated with CVF or rCVF. The protocol used is as described in the reference of Kock, M et al; J Biol Chem 2004.

### General Information

#### Description

HC4073 is the recombinant form of Cobra venom factor (CVF). The complement system is the first line of defense against pathogens and important component of innate as well as adaptive immunity. CVF is the non-toxic complement activating protein in the venom from the cobra species *Naja Kaouthia*. CVF is a structural and functional analog of complement C3. The protein functionally resembles C3b and exhibits a three-chain structure like C3c. CVF forms a C3/C5 convertase with factor B in the presence of factor D and Mg<sup>2+</sup>, thereby activating the alternative pathway of complement. Although analog in function, there are two differences between CVF,Bb convertases and natural C3b,Bb convertases. First the stability is quite different. Whereas C3b,Bb is short-lived with a half-life of 1.5 min, CVF,Bb is rather stable with a half-life of 7h. Secondly, factor H disassembles C3b,Bb and serves as cofactor for proteolytic inactivation of C3b by factor I. The CVF convertase is completely resistant to factor H and I. Which makes it an excellent research tool.

CVF is widely used reagent in order to deplete serum samples in order to study the role of complement in host defense, immune response and pathogenesis of disease. Since the *Naja* species are on the list of endangered species, native

CVF will increasingly difficult to obtain. The recombinant protein (rCVF) is synthesized in insect cells and is processed into a two-chain form of pro-CSF that structurally resembles C3 (Vogel et al). Pro-CVF can present in three forms and have all functional activity of mature, native CVF. The activity of pro-CVF and the resulting convertase is indistinguishable from CVF and the C3b,Bb convertase. rCVF can be exploited in vitro as well as in animals. This leads to decomplemented serum and high concentration of complement end products, like C3a, C5a and sTCC.

<b>Species</b>	Recombinant nontoxic protein produced by HEK293E-253 cells.
<b>Aliases</b>	CVF, CVFk
<b>References</b>	<ol style="list-style-type: none"><li>1. Kock, M et al; Structure and Function of Recombinant Cobra Venom Factor. J Biol Chem 2004, 279: 30836</li><li>2. Vogel, C et al; Recombinant cobra venom factor. Molecular immunology 2004, 41:191</li><li>3. Vogel, C et al; Humanized cobra venom factor: Structure, activity, and therapeutic efficacy in preclinical disease models. Mol Immunol 2014, 61:191</li></ol>
<b>Storage&amp;stability</b>	Product should be stored at -80°C. Store stock solution in aliquots at -80°C. Repeated freeze and thaw cycles will cause loss of activity. Under recommended storage conditions, product is stable for at least one year.
<b>Precautions</b>	For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

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We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC  
Brenda Teunissen

Date  
28/11/2023

Do you have any questions or comments regarding this product? Please contact us via [support@hycultbiotech.com](mailto:support@hycultbiotech.com).