Cobra Venom Factor

For Research Use Only. Not for use in Diagnostic Procedures.

Background
Cobra Venom Factor (CVF), sometimes referred to as C3b(Cobra), is the non-toxic, complement activating component of cobra venom. Like naturally occurring C3b, CVF forms a complex with complement components Factor B and Factor D. This CVFBbD convertase is capable of activating C3 in a wide variety of species via the alternative complement pathway. Unlike the naturally occurring convertase (C3bBbD), the C3b(Cobra)BbD convertase is Factor H resistant and is therefore not inactivated by Factor I or CR1. Given appropriate incubation time, CVF will convert nearly 100% of the C3 to C3 end products. Unlike CVF purified from the Naja naja haje species, CVF from Naja naja kaouthia activates the terminal pathway directly by forming a C5 convertase. This depletes C5 in a manner analogous to that described above for C3. Levels of iC3b, C3a, SC5b-9, C5a and the Factor B cleavage product Bb are all extremely high in CVF treated sera.

Storage and Handling
Purified CVF may be stored at –70°C until the expiration date listed on the vial and the accompanying Certificate of Analysis. CVF should be thawed rapidly at 37°C and immediately placed on ice until use.

Applications
Note: When using any CVF in vivo or in vitro, it is important to monitor units of activity rather than µg/ml as activity/µg can vary slightly between preparations and suppliers. In general, one unit of CVF is equal to 2-6 µg of CVF.

Quidel’s CVF has been used in a variety of in vitro and in vivo models to deplete complement. For in vitro experiments, 8-20 units/ml of serum is adequate to convert nearly all the available C3 to C3 fragments when incubated with neat human serum for 60-90 minutes at 37°C (data on file at Quidel). This will also convert nearly all the available C5 to C5a and SC5b-9.

Quidel’s CVF has also been used successfully in a variety of animal models, including mice, rats, guinea pigs, various primates, dogs, pigs and sheep to deplete complement in vivo. This application has not been tested or verified at Quidel. For a list of studies, please refer to Quidel’s expanded bibliographic references for this product, available upon request from Quidel Technical Service.

Specifications
Catalog Number: A600
Concentration: 1.0-1.2 mg/ml
Purity: ≥ 95% by SDS PAGE
Volume/Vial: 1.0 ml
Activity/Vial: ≥ 350 units
Storage: ≤ -70°C
Buffer: Phosphate Buffered Saline (pH 7.2 ± 0.2)

References
1 Fritzinger, D.C., Bredehorst, R., Vogel, C-W. Molecular cloning and derived primary structure of cobra venom factor. PNAS 91:26, 12775-12779 (1994).

Ordering and Additional Information
To learn more about this and other Quidel products visit our website www.quidel.com or contact Technical Services at 1.800.524.6318

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