

Synonym

Complement C5,C5,CPAMD4

Source

Rat Complement C5, His Tag(CO5-R52H5) is expressed from human 293 cells (HEK293). It contains AA Gln 24 - Ala 1688 (Accession # [XP_001079130.2](#)). Predicted N-terminus: Gln 24 (β chain) & Asp 684 (α chain)

Molecular Characterization

Complement C5(Gln 24 - Ala 1688)
XP_001079130.2 Poly-his

This protein carries a polyhistidine tag at the C-terminus.

The mature form of Complement C5 is a disulfide-linked heterodimer composed of proteolytically cleaved α and β chain. Each α and β chain has a calculated MW of 74.1 kDa (β chain) and 114.8 kDa (α chain). The protein migrates as 70 kDa (β chain) and 110 kDa (α chain) under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μ g by the LAL method.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μ m filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

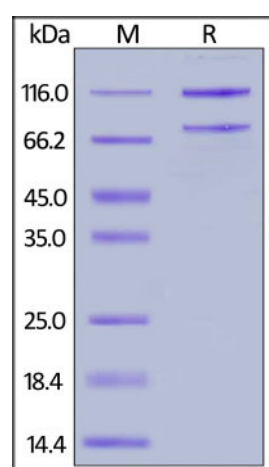
Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

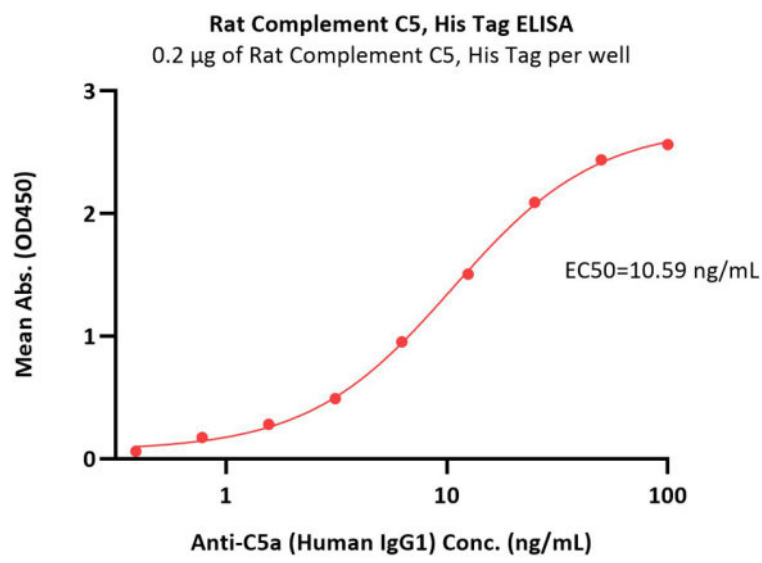
This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

Rat Complement C5, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity-ELISA



Immobilized Rat Complement C5, His Tag (Cat. No. CO5-R52H5) at 2 µg/mL (100 µL/well) can bind Anti-C5a (Human IgG1) with a linear range of 0.4-12.5 ng/mL (QC tested).

Background

Derived from proteolytic degradation of complement C5, C5 anaphylatoxin is a mediator of local inflammatory process. C5 precursor is first processed by the removal of 4 basic residues, forming two chains, beta and alpha, linked by a disulfide bond. C5 convertase activates C5 by cleaving the alpha chain, releasing C5a anaphylatoxin and generating C5b (beta chain + alpha' chain). Activation of C5 by a C5 convertase initiates the spontaneous assembly of the late complement components, C5-C9, into the membrane attack complex. C5b has a transient binding site for C6. The C5b-C6 complex is the foundation upon which the lytic complex is assembled. The C5a anaphylatoxin interacts with C5AR1 and tick complement inhibitor. C5a is also a potent chemokine which stimulates the locomotion of polymorphonuclear leukocytes and directs their migration toward sites of inflammation.

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.