Human Complement C5 Protein, His Tag

Catalog # CO5-H52HaAI

Application

Human Complement C5 Protein, His Tag AIDD-Ready protein is designed for direct use in SPR assays. It is supplied in a sugar-free, glycerol-free formulation to eliminate refractive index interference in SPR. No desalting or buffer exchange is required before use, simplifying the SPR workflow and supporting high-throughput experimental validation to accelerate the transition from AI prediction to wet-lab validation.

Features and Advantages

- **Directly compatible with SPR:** No desalting or buffer exchange required; supplied as a liquid to reduce sample preparation and improve experimental efficiency.
- **High batch-to-batch consistency:** Each lot is released using SPR QC to ensure experimental reproducibility.
- **Validated with representative drugs:** SPR binding activity is validated using representative drug antibodies to ensure suitability for drug screening and evaluation.

Synonyms

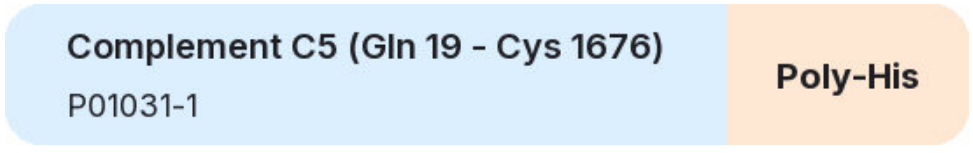
Complement C5, C5, CPAMD4

Source

Human Complement C5 Protein, His Tag (CO5-H52HaAI) is expressed from human 293 cells (HEK293). It contains AA Gln 19 - Cys 1676 (Accession # P01031-1).

Predicted N-terminus: Gln 19 & Thr 678

Molecular Characterization



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

The protein has a calculated MW of 73.9 kDa & 114.4 kDa. The protein migrates as 65-70 kDa and 110-130 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE) due to glycosylation.

Purity

>90% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

Formulation

Formulated in a proprietary trehalose-free buffer, supplied ready-to-use for SPR/BLI analysis - no buffer exchange required.

For detailed formulation, please refer to the batch-specific COA.

Shipping and Storage

This product is supplied and shipped on dry ice.

Please avoid repeated freeze-thaw cycles.

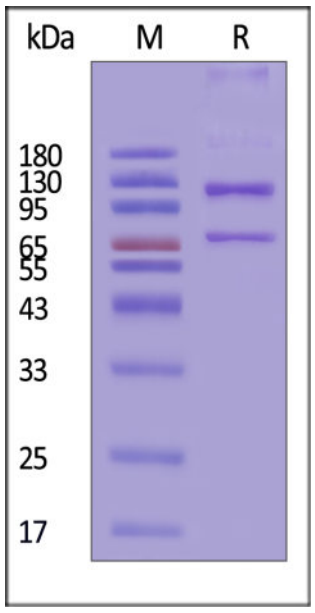
This product is stable after storage at:

- The product MUST be stored at -70°C or lower upon receipt;
- -70°C for 12 months under sterile conditions.

ACRO Quality Management System

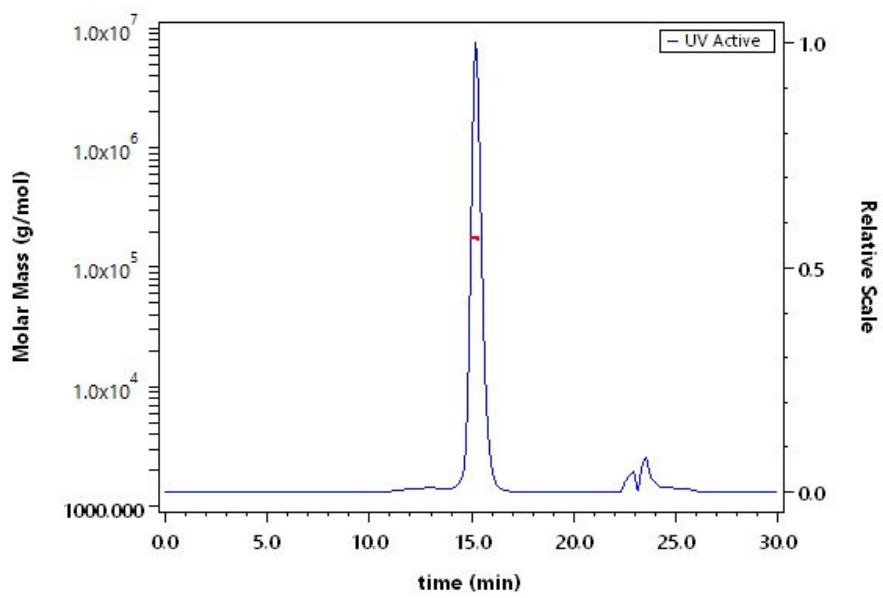
- QMS(ISO, GMP)
- Quality Advantages
- Quality Control Process

SDS-PAGE



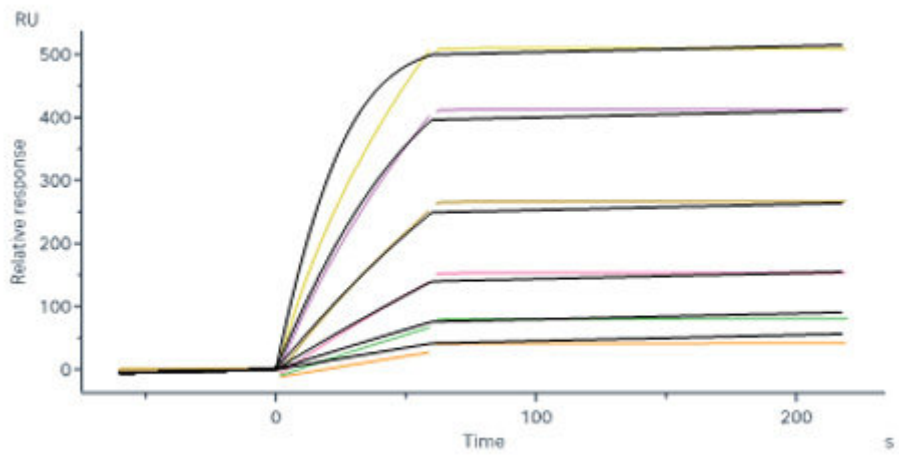
Human Complement C5 Protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With Star Ribbon Pre-stained Protein Marker).

SEC-MALS



The purity of Human Complement C5 Protein, His Tag (Cat. No. CO5-H52HaAI) is more than 90% and the molecular weight of this protein is around 170-220 kDa verified by SEC-MALS.

Activity-SPR



Monoclonal Anti-C5a antibody, Human IgG1 (AM50) captured on Protein A Chip can bind Complement C5 (Cat. No. CD1-H5243AI) with an affinity constant of 1.15 pM as determined in a SPR assay (Biacore 8K) (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.

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