

# Active Recombinant Human Complement C5 Protein, Fc-tagged

**Cat. No.** C5-11057H    **Lot. No.** (See product label)

## SPECIFICATION

### Product Overview

Human Complement C5 Protein, Fc Tag is expressed from human 293 cells (HEK293). It contains AA Gln 19 - Arg 677 & Thr 678 - Cys 1676 (Accession # P01031-1). This protein carries a human IgG1 Fc tag at the C-terminus. Predicted N-terminus: Gln 19 (β chain) & Thr 678 (α chain)

### Species

Human

### Source

HEK293

### ProteinLength

19-677 aa & 678-1676 aa

### Description

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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|                       |                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Form</b>           | Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.                                                                                                                                                                                                                                                                                                        |
| <b>Bio-activity</b>   | Immobilized Human Complement C5 Protein, Fc Tag at 1 µg/mL (100 µL/well) can bind Monoclonal Anti-Human C5a Human Antibody, Human IgG1 with a linear range of 0.5-4 ng/mL.                                                                                                                                                                                                                    |
| <b>Molecular Mass</b> | 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 73.9 kDa (β chain) and 138.9 kDa (α chain). The protein migrates as 70 kDa, 150 kDa and >180 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE) due to glycosylation. |
| <b>Endotoxin</b>      | Less than 1.0 EU/µg by the LAL method/rFC method.                                                                                                                                                                                                                                                                                                                                             |
| <b>Purity</b>         | >90% as determined by SDS-PAGE.                                                                                                                                                                                                                                                                                                                                                               |
| <b>Storage</b>        | This product is stable after storage at: -20 to -70 centigrade for 12 months in lyophilized state; -70 centigrade for 3 months under sterile conditions after reconstitution. For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower. Please avoid repeated freeze-thaw cycles.                                                                  |
| <b>Reconstitution</b> | It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 µg/µL. Centrifuge the vial at 4 centigrade before opening to recover the entire contents.                                                                                                                                                                                                        |

## GENE INFORMATION

|                        |                                                    |
|------------------------|----------------------------------------------------|
| <b>Gene Name</b>       | C5 complement component 5 [ Homo sapiens (human) ] |
| <b>Official Symbol</b> | C5                                                 |

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|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Synonyms</b>       | C5; complement component 5; complement C5; CPAMD4; anaphylatoxin C5a analog; C3 and PZP-like alpha-2-macroglobulin domain-containing protein 4; FLJ17816; FLJ17822; MGC142298; |
| <b>Gene ID</b>        | 727                                                                                                                                                                            |
| <b>mRNA Refseq</b>    | NM_001735                                                                                                                                                                      |
| <b>Protein Refseq</b> | NP_001726                                                                                                                                                                      |
| <b>MIM</b>            | 120900                                                                                                                                                                         |
| <b>UniProt ID</b>     | P01031                                                                                                                                                                         |

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