

Recombinant Human C5 Protein (Gln19-Cys1676), His-FLAG-tagged

Cat. No. C5-575H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human C5 Protein (NP_001726.2) (Gln19-Cys1676) was produced by HEK293 Cells expression system. This protein was expressed with a polyhistidine tag at the C-terminus and a FLAG tag at the N-terminus.
Species	Human
Source	HEK293
ProteinLength	Gln19-Cys1676
Description	C5a is a protein fragment released from complement component C5. This 74 amino acid peptide in humans is generated by the cleavage of C5a convertase on the C5 α-chain during the classical, alternative, and lectin pathways of complement activation. The structure of C5a includes a core region consisting of four, anti-parallel α-helices held together by three disulfide linkages and a structured C-terminal tail, and C5a is rapidly metabolised by carboxypeptidase B to a 73 amino acid low activity form, C5a des-Arg. C5a is an extremely potent proinflammatory mediator, as well as a potent chemotactic factor for neutrophils and other leukocytes. It causes histamine release, increases in vascular permeability, induces several cytokines production from leukocytes, enhances neutrophil-endothelial cell adhesion, and augments the humoral and cell-mediated immune response. C5a is quickly metabolised by carboxypeptidases, forming the less potent C5adesArg. Acting via a classical G protein-coupled receptor, CD88, C5a and C5adesArg exert a number of effects

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essential to the innate immune response, while their actions at the more recently discovered non-G protein-coupled receptor, C5L2 (or GPR77), remain unclear. The widespread expression of C5a receptors throughout the body allows C5a to elicit a broad range of effects. Thus, C5a has been found to be a significant pathogenic driver in a number of immuno-inflammatory diseases, making C5a inhibition an attractive therapeutic strategy. C5a is a strong chemoattractant and is involved in the recruitment of inflammatory cells such as neutrophils, eosinophils, monocytes, and T lymphocytes, in activation of phagocytic cells and release of granule-based enzymes and generation of oxidants, all of which may contribute to innate immune functions or tissue damage. Accordingly, the anaphylatoxin C5a is implicated in a variety of diseases such as rheumatoid arthritis, systemic lupus erythematosus, reperfusion injury, Alzheimer's disease, and sepsis.

Predicted N Terminal	Asp
Form	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.
Molecular Mass	The recombinant human C5 consists of 1677 amino acids and predicts a molecular mass of 188.8 kDa.
Endotoxin	< 1.0 EU per µg protein as determined by the LAL method.
Purity	> 95 as determined by SDS-PAGE
Stability	Samples are stable for up to twelve months from date of receipt at -70 centigrade.
Storage	Store it under sterile conditions at -20 centigrade to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

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Reconstitution It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 mg/ml. Centrifuge the vial at 4°C before opening to recover the entire contents.

Shipping In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature.
Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

GENE INFORMATION

Gene Name	C5 complement component 5 [Homo sapiens]
Official Symbol	C5
Synonyms	C5; complement component 5; complement C5; CPAMD4; anaphylatoxin C5a analog; FLJ17816; FLJ17822; MGC142298;
Gene ID	727
mRNA Refseq	NM_001735
Protein Refseq	NP_001726
MIM	120900
UniProt ID	P01031

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