Datasheet for ABIN7317820

C5A Protein

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Overview

Quantity:	50 µg
Target:	C5A (C5a)
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active

Product Details

Purpose:	Recombinant Human Complement C5a Protein (Active)
Sequence:	Leu 679-Arg 751
Characteristics:	A DNA sequence encoding the active form of human C5a (Leu 679-Arg 751) was expressed.
Purity:	> 94 % as determined by reducing SDS-PAGE.
Biological Activity Comment:	Measured by its ability to induce N-acetyl-β-D-glucosaminidase release from differentiated U937 human histiocytic lymphoma cells. The ED50 for this effect is typically 5-15 ng/ml.

Target Details

Target:	C5A (C5a)
Alternative Name:	Complement C5a (C5a Products)
Background:	Background: 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

Target Details

	structure of C5a includes a core region consisting of four, anti-parallel alpha-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 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. Synonym: Complement C5; C5a anaphylatoxin; C5a;CPAMD4;ECLZB;C5Da
Molecular Weight:	8.3 kDa
NCBI Accession:	NP_001726
Pathways:	Complement System, Carbohydrate Homeostasis

Application Details

Restrictions:	For Research Use only

Handling

Format:	Lyophilized
Reconstitution:	Please refer to the printed manual for detailed information.
Buffer:	Lyophilized from sterile PBS, pH 7.4
Storage:	4 °C,-20 °C,-80 °C

Handling

Storage Comment:	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.