



## Recombinant Human C5a

20171212BB



**FOR RESEARCH ONLY! NOT FOR HUMAN USE!**

<b>Cat.-no.:</b>	<b>100-056</b>
Size:	20 µg
Lot. No.:	According to product label

### Sequence

TLQKKIEEIA AKYKHSVVKK CCYDGACVNN DETCEQRAAR  
ISLGPRCIKA FTECCVVASQ L RANISHKDM QLGR

### Database References

<b>Protein RefSeq:</b>	NP_001726.2
<b>Uniprot ID:</b>	P010312
<b>mRNA RefSeq:</b>	NM_001735.2

## Scientific Background

<b>Gene-ID (NCBI):</b>	727
<b>Synonyms:</b>	Complement Component 5a, Complement 5a, CPAMD4, C3 and PZP-like alpha-2-macroglobulin domain-containing protein 4

Complement 5a (C5a) is an enzymatically generated glycoprotein belonging to the anaphylatoxin family of structurally and functionally related proteins. Generated upon the activation of the complement system, C5a, together with C4a, C3a, and the membrane attack complex (C5b-9), functions as a central player in host defense by inducing smooth muscle cell contraction, increased vascular permeability, and histamine release from mast cells and basophilic leukocytes through cell degranulation. In addition to acting as a direct mediator of localized inflammatory response, C5a also initiates both the synthesis and release of IL-8 from monocytes and bronchial epithelial cells, stimulates the proliferation of neurons and hepatocytes, and functions as a potent chemoattractant. Where C5a deficiency, a rare defect of the complement pathway caused by the mutation of the C5a gene, is associated with susceptibility to severe infections, excessive C5a activation has been linked to liver fibrosis, sepsis, adult respiratory distress syndrome, rheumatoid arthritis, Alzheimer's disease, and ischemic heart disease. Human C5a shares 60% and 54% sequence identity to mouse and rat C5a, respectively. The human C5 gene encodes a 1,676 amino acid glycoprotein that is comprised of a disulfide-linked C5 alpha and a C5 beta chain, the former of which contains the active, 74 amino acid C5a anaphylatoxin chain. Recombinant Human C5a is an 8.28 kDa glycoprotein containing the 74 amino acid residues of the C5a anaphylatoxin chain.

## Product Specifications

<b>Expressed in</b>	E. coli
<b>Purity</b>	> 98% by SDS-PAGE & HPLC analyses
<b>Endotoxin level</b>	< 0.1 ng /µg of protein (<1EU/µg).
<b>Formulation</b>	lyophilized
<b>Length (aa):</b>	74
<b>MW:</b>	8,3 kDa

**Stability:** The lyophilized protein although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution the protein should be stored at 4°C between 2-7 days and for future use below -18°C.

**Reconstitution:** Reconstitute in water to a concentration not less than 100µg/ml, which can then be further diluted to other aqueous solutions.



**AVOID REPEATED FREEZE AND THAW CYCLES!**

**Biological Activity:** Determined by its ability to chemoattract human monocytes using a concentration range of 1.0-10.0 ng/ml.