

Native Human C5a desArg

Cat. No. C5a desArg-07H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Native Human C5a desArg was purified from normal human serum (shown by certified tests to be negative for HBsAg, HTLV-I/II, STS and for antibodies to HCV, HIV-1 and HIV-II).
Species	Human
Source	Normal human serum
Description	Natural human C5a is prepared from human C5 protein cleaved into C5a and C5b by human C5 convertase. The C5a is converted to C5a desArg by proteolytic removal of the C-terminal arginine. The primary carboxypeptidase responsible for Arg removal is serum carboxypeptidase N, but there are several different carboxypeptidases in serum. C5a desArg is a naturally glycosylated polypeptide containing 73 amino acids with a molecular weight of approx. 10,250 daltons. It contains 25% carbohydrate attached to a single Asn residue at position 64. This carbohydrate is of variable structure leading to a broad distribution of MW upon analysis by mass spectroscopy. C5a is the most potent anapylatoxin (compared to C3a and C4a). C5a desArg is produced when C5a is "inactivated" by removal of its C-terminal arginine amino acid. This cleavage occurs by the action of the plasma enzyme carboxypeptidase N. This inactivation is rapid and most C5a is converted to C5a desArg within minutes of its formation. "Inactivated" C5a still possesses approx. 1% of its anaphylatoxic and chemotatic activities, but its stimulatory activity is only reduced 10-fold. Thus, C5a desArg retains considerable biological activity even though it is frequently called inactivated C5a. Its biological properties include being weakly chemotactic for

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neutrophils (PMN), causing smooth muscle contraction, increasing vascular permeability, causing histamine and TNF-alpha release, and causing lysosomal degranulation of immune cells. C5a and C5a desArg act through the C5a Receptor (C5aR, CD88, a G-protein coupled receptor) on PMN, monocytes, alveolar macrophages, and mast cells. A second receptor of unknown function (C5L2, gpr77) has been identified. Due to the widespread expression of C5a receptors and the results from C5aR KO mice it is believed that C5a and its receptors have many non-immunological functions in organ development, CNS development, neurodegeneration, tissue regeneration and hematopoiesis.

Form	Liquid
CAS	80295-54-1
AASequence	TLQKKIEEIAAKYKHSVVKCCYDGACVNNDTCEQRAARISLGPRCIKAFTECCVVA SQLRANISHKDMQLG
Molecular Mass	10.25 kDa
Extinction Coeff.	A280 nm = 0.41 at 1.0 mg/mL
Isoelectric point	8.8
Endotoxin	Typically < 0.1 EU/μg
Purity	> 97% by SDS-PAGE
Storage	At -70 centigrade or below. Avoid freeze/thaw.
Storage Buffer	20 mM HEPES, 100 mM NaCl, pH 7.2 (No carrier proteins added)

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Concentration	0.5 mg/mL
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GENE INFORMATION

Official Symbol	C5a desArg-07H
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