

## DESCRIPTION

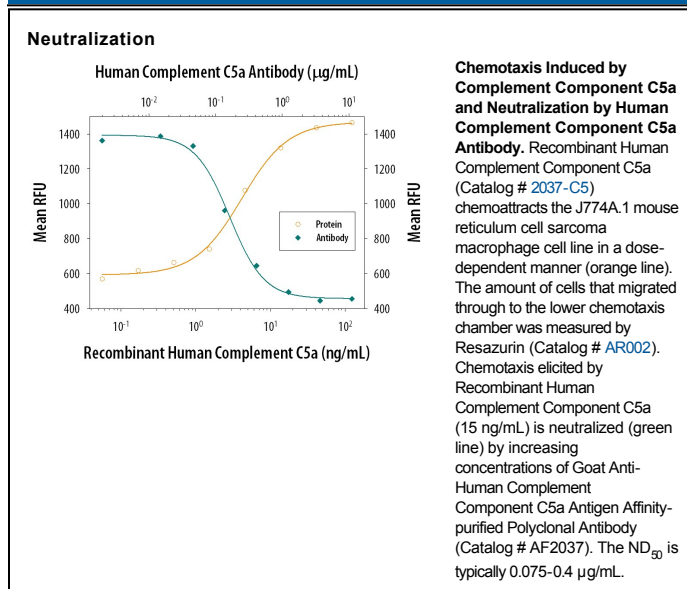
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Complement Component C5/C5a in direct ELISAs and Western blots. In Western blots, approximately 5% cross-reactivity with recombinant mouse Complement Component C5a is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Complement Component C5a Thr678-Arg751 Accession # P01031
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human Complement Component C5a (Catalog # 2037-C5)
<b>Neutralization</b>		Measured by its ability to neutralize Complement Component C5a-induced chemotaxis in the J774A.1 mouse reticulum cell sarcoma macrophage cell line [Zwirner, J. <i>et al.</i> (1998) <i>Eur. J. Immunol.</i> <b>28</b> :1570]. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.075-0.4 µg/mL in the presence of 15 ng/mL Recombinant Human Complement Component C5a.

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Human complement 5a (C5a) is an enzymatically generated glycoprotein that belongs to a family of structurally and functionally related proteins known as anaphylatoxins. C5a is a 74 amino acid (aa) peptide that is created by the activity of C5a convertase on the C5  $\alpha$ -chain (1, 2). Human C5a has four  $\alpha$ -helices plus three intrachain disulfide bonds that create a triple loop structure (3). In serum, proteolytic processing removes the C-terminal arginine, creating a low activity C5adesArg74 molecule (1). Human C5a is 60% and 54% aa identical to mouse and rat C5a, respectively. C5a binds to a signaling G-protein coupled receptor (C5aR/CD88) and a non-signaling GPCR termed C5L2 (4). Activation of Cd88 results in neutrophil chemotaxis and endothelial cell activation (1, 5). It also triggers an oxidative burst in macrophages and neutrophils, and induces release of histamine in basophils and mast cells.

## References:

1. Gerard, C. and N.P. Gerard (1994) *Annu. Rev. Immunol.* **12**:775.
2. DiScipio, R.G. *et al.* (1983) *J. Biol. Chem.* **258**:10629.
3. Huber-Lang, M.S. *et al.* (2003) *J. Immunol.* **170**:6115.
4. Okinaga, S. *et al.* (2003) *Biochemistry* **42**:9406.
5. Gerard, N.P. and C. Gerard (2002) *Curr. Opin. Immunol.* **14**:705.