

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Complement Component C5/C5a in ELISAs. In sandwich immunoassays, detects human Complement Component C5a by itself or in the context of Complement Component C5. In ELISAs, this antibody does not cross-react with recombinant human (rh) Complement Component C3a, rhd2-macroglobulin, recombinant mouse (rm) Complement Component C5a, or rmComplement Component C5d.
Source	Monoclonal Mouse IgG ₁ Clone # 295009
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Complement Component C5a Thr678-Arg751 Accession # P01031
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

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.

Human Complement Component C5/C5a Sandwich Immunoassay	Reagent
ELISA Capture	2-8 µg/mL Human Complement Component C5/C5a Antibody (Catalog # MAB2037)
ELISA Detection	0.5-2.0 µg/mL Human Complement Component C5/C5a Biotinylated Antibody (Catalog # BAM20371)
Standard	Recombinant Human Complement Component C5a (Catalog # 2037-C5)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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 α-chain (1, 2). Human C5a has four α-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 nonsignaling 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.