

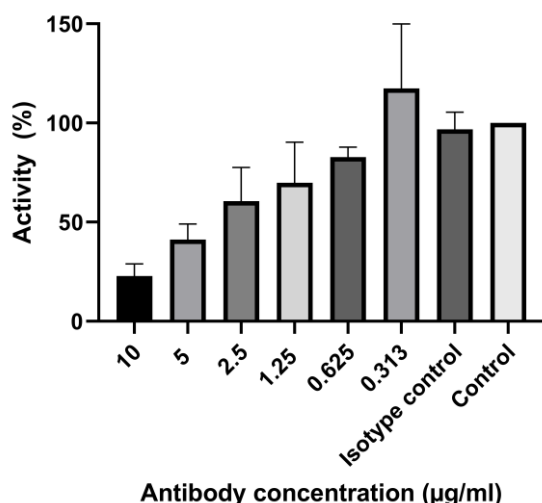
CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	C5/C5a (N-terminus), Human, clone 561		
Catalog number	HM2076-100UG		
Lot number	xxxxxXxxxx	Expiry date	MMM YYYY
Volume	1 ml	Amount	100 µg
Formulation	0.2 µm filtered in PBS+0.1%BSA	Concentration	100 µg/ml
Host Species	Mouse IgG2a	Conjugate	None
Endotoxin	<24 EU/mg	Purification	Protein G
Storage	4°C		

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #					1,2	2		
Yes					•	•		
No								
N.D.	•	•	•	•			•	•

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot



FS: Classical pathway inhibition by HM2076 (anti C5/C5a)

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50. For functional studies, in vitro dilutions have to be optimized in user's experimental setting.

- IA: HM2076 can be utilized for detection in ELISA.
- FS: The inhibition of the classical pathway by HM2076, targeting C5/C5a (N-terminus), was evaluated at varying concentrations using pooled human serum within the HK3010 human Classical Complement Pathway assay. An isotype control (MOPC-173, BioLegend) was also included to discern isotype-specific interactions. The pooled human serum served as a control.

General Information

Description

Monoclonal antibody 561 recognizes the N-terminus of C5. The antibody reacts both with intact C5 (190 kDa) as with C5a (115 kDa). The complement system is composed of over 30 proteins, activated in response to tissue injury, invading pathogens or other foreign surfaces. The complement pathways can be divided in the activation pathways and lytic pathway. The activation pathways lead via C3 to the cleavage of the fifth complement component C5 into C5a and C5b, resulting in activation of the lytic pathway. C5a was first described as a cleavage product of C5 with chemotactic and anaphylatoxic properties. Further characterization revealed that C5a is an essential part of the innate immune response and evidence now suggests that it may also play a role in adaptive immunity. Complement fragment

C5a is a 74 residue pro-inflammatory polypeptide. C5a induces smooth muscle contraction, increases vascular permeability, causes degranulation of mast cells and basophils, and release of lysosomal enzymes. In addition C5a stimulates the directed migration of neutrophils, eosinophils, basophils and monocytes. C5a binds to at least two seven-transmembrane domain receptors, C5aR (C5R1, CD88) and C5L2 (gpr77), expressed ubiquitously on a wide variety of cells but particularly on the surface of immune cells like macrophages, neutrophils and T cells. The former is a well-established receptor that initiates G-protein-coupled signaling via mitogen-activated protein kinase pathways, thereby by inducing synthesis of cytokines such as TNF-alpha, IL-1beta, IL-6 and IL-8. Its in vivo blockade greatly reduces inflammatory injury. Much less is known about C5L2, occupancy of which by C5a does not initiate increased intracellular Ca(2+). 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. Nowadays C5a is also implicated in non-immunological functions associated with developmental biology, CNS development and neurodegeneration, tissue regeneration, and hematopoiesis.

Immunogen	Human C5/C5a
References	<ol style="list-style-type: none"> 1. Mollnes, T et al. Essential role of the C5a receptor in E.coli-induced oxidative burst and phagocytosis revealed by a novel lepirudin-based human whole blood model of inflammation. <i>Blood</i> 2002, 100:1869 2. Fung, M et al. Pre-neutralization of C5a-mediated effects by the monoclonal antibody 137-26 reacting with the C5a moiety of native C5 without preventing C5 cleavage. <i>Clin Exp Immunol</i> 2003, 133: 160
Storage&stability	Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.
Precautions	For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

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Approved by Manager of QC

Date

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