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Product datasheet for BM5030

Complement C5 (C5) Mouse Monoclonal Antibody [Clone ID: HCC5.1]

Product data:

Product Type:	Primary Antibodies
Clone Name:	HCC5.1
Applications:	ELISA, IHC, WB
Recommended Dilution:	**ELISA.** **Western Blot.** **Immunohistochemistry on Frozen Sections:** 1/10 for 1h at RT.
Reactivity:	Human
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Immunogen:	Human complement component C5
Specificity:	HCC5.1 allows detection of native complement component C5 and discrimination from activated C5b-9 complexes, especially in different forms of glomerulonephritis. This HCC5.1 antibody reacts with both native C5 as well as with C5b. Native C5 is only detected with HCC5.1, while C5b is detected by both HCC5.1 and HCC5.2. **Polypeptide Reacting:** Mr 200,000 polypeptide of native complement component C5.
Formulation:	PBS, pH 7.4 State: Purified State: Lyophilized purified IgG fraction Stabilizer: 0.5% BSA Preservative: 0.09% Sodium Azide
Reconstitution Method:	Restore with 1ml distilled water
Purification:	Affinity Chromatography on Protein A
Conjugation:	Unconjugated
Storage:	Prior to and following reconstitution store the antibody at 2-8°C. **DO NOT FREEZE!**
Stability:	Shelf life: one year from despatch.
Gene Name:	complement component 5

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Database Link: Entrez Gene 727 Human
P01031

Background: 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 pahway 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 haematopoiesis.
C5 is synthesised in the liver as a single polypeptide chain. Before secretion the molecule is glycosylated and secreted into plasma as a 190 kDa glycoprotein consisting of a disulphide linked alpha-chain (111 kDa) and beta-chain (75 kDa). C5 precursor is first processed by the removal of 4 basic residues, forming two chains, beta and alpha, linked by a disulfide bond. C5 convertase activates C5 by cleaving the alpha chain, releasing C5a anaphylatoxin and generating C5b (beta chain + alpha' chain).

Synonyms: CPAMD4, Complement component 5

Protein Families: Druggable Genome

Protein Pathways: Complement and coagulation cascades, Prion diseases, Systemic lupus erythematosus