

**MONOCLONAL ANTIBODY TO
HUMAN C3/C3a/C3a-desArg
clone 2898**



Catalog no HM2075 (lot number and expiry date are indicated on the label)

Description The monoclonal antibody 2898 recognizes the C-terminus of human complement protein C3a. The antibody recognizes intact C3, C3a as well as C3a-desArg. C3 is the most abundant protein of the complement system with serum protein levels of about 1.3 mg/ml. The complement system is an important part of the humoral response in innate immunity, consisting of three different pathways. The third complement component, C3, is central to the classical, alternative and lectin pathways of complement activation. Activation products of the complement cascade contain neo-epitopes that are not present in the individual native components. Monoclonal antibodies detecting neo-epitopes have been used for direct quantification of activation at different steps in the complement cascade. The synthesis of C3 is tissue-specific and is modulated in response to a variety of stimulatory agents. An inherited deficiency of C3 predisposes the person to frequent assaults of bacterial infections. In ulcerative colitis, and idiopathic chronic inflammatory bowel disease, the deposition of C3 in the diseased mucosa has been reported. Proteolysis by certain enzymes results in the cleavage of C3 releasing C3a anaphylatoxin and C3b. C3a is a protein of 74 amino acids. C3a itself is very short-lived and in serum is cleaved rapidly into the more stable C3a-desArg (also called acylation stimulating protein, ASP). Therefore, measurement of C3a-desArg allows reliable conclusions about the level of complement activation in the test samples.
C3a is a mediator of local inflammatory processes. It induces smooth muscle contraction, increases vascular permeability, and causes histamine release from mast cells and basophilic leukocytes. C3a is involved in inflammatory reactions seen in gram-negative bacterial sepsis, trauma, ischemic heart disease, post-dialysis syndrome and a variety of autoimmune diseases.

Aliases Complement protein C3

Immunogen Peptide CARASHLGLA (last nine amino acids of C3a-desArg)

Species Mouse IgG₁

Formulation 1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin and 0.02% sodium azide.

Application

	F	FC	FS	IA	IF	IP	P	W ^{1,2}
Yes				•				•
No								
N.D.	•	•	•		•	•	•	

*N.D.= Not Determined; F = Frozen sections; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IF = Immuno Fluorescence; IP = Immuno Precipitation; P = Paraffin sections; W = Western blot
Application IA has been tested by Hycult Biotech.*

Application notes W: A reduced sample treatment and SDS-PAGE was used. The band size is ~95 and 8.2 kDa for C3 and C3a respectively (Ref.1).

- References**
- Hartmann, H et al; Rapid quantification of C3a and C5a using a combination of chromatographic and immunoassay procedures. *J Immunol Meth* 1993, 166: 35
 - Smalley, D et al; Proteomic discovery of 21 proteins expressed in human plasma-derived but not platelet-derived microparticles. *Thromb Haemost* 2007, 97: 67

Use For Western blotting, 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.

Positive control Human plasma

Negative control C3-depleted serum

Storage and stability Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year. The exact expiry date is indicated on the label.

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.

Also available

HM2072	Monoclonal antibody against Human C3/C3b, clone 755
HM2073	Monoclonal antibody against Human C3/C3a, clone 474
HM2074	Monoclonal antibody against Human C3a/C3a des Arg, clone 2991
HM2168	Monoclonal antibody against Human activated C3, clone bH6