OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850
UNITED STATES
Phone: +1-888-267-4436
Fax: +1-301-340-8606
techsupport@origene.com

OriGene Technologies GmbH
Schillerstr. 5
32052 Herford
GERMANY
Phone: +49-5221-34606-0
Fax: +49-5221-34606-11
info-de@origene.com

AM26376BT-N Monoclonal Antibody to C1q A subunit - Biotin

Alternate names:	Complement 1q, Complement C1q, Complement C1q subcomponent subunit A
Quantity:	50 µg
Concentration:	0.1 mg/ml
Background:	C1q is a 459 kDa molecule consisting of three individual polypeptide chains. The antibody has been generated by immunization of C1q-/- C57BL/6 mice with purified mouse C1q. C1q forms together with C1r and C1s the C1 macromolecule, the first component of the classical complement pathway. Interaction of immune complexes with C1q induces a conformational change within the C1 complex, which results in activation of the classical pathway. C1q functions as recognition unit by binding to the heavy chain of IgG or IgM (Fc gamma and Fc micro) provided that the immunoglobulins are bound to their antigen. Furthermore, C1q can also recognize molecular patterns associated with pathogens and it can bind to apoptotic blebs, where it activates the classical complement pathway and mediates phagocytosis. As such, C1q promotes the clearance of apoptotic cells and subsequent exposure of auto antigens, thereby preventing stimulation of the immune system. C1q is predominantly produced by macrophages but also by follicular dendritic cells, interdigitating cells and cells of the monocyte-macrophage lineage. C1q deficiency has a profound effect on host defence and clearance of immune complexes. Absence of C1q may cause autoimmunity by impairment of the clearance of apoptotic cells. Inherited C1q deficiency is also associated with the development of systemic lupus erythematosus (SLE).
Uniprot ID:	P02745
NCBI:	NP_057075.1
GeneID:	712
Host / Isotype:	Mouse / IgG2b
Recommended Isotype Controls:	SM12B
Clone:	JL-1
Immunogen:	Purified mouse C1q
Format:	**State:** Liquid 0.2 µm filtered Ig fraction **Purification:** Protein G Chromatography **Buffer System:** PBS **Preservatives:** 0.02% Sodium Azide **Stabilizers:** 0.1% BSA **Label:** Biotin
Applications:	**Immunohistochemistry on Frozen Sections** (Ref.1): Stains tissue sections which were fixed in acetone. As positive control a polyclonal anti-C1q antibody was used and as negative control an isotype matched monoclonal antibody (Ref.1). The typical starting

working dilution is 1/50.
Functional assays (Ref.1): Antibody JL-1 was administered to mice resulting in depletion of circulating C1q, glomerular deposition of C1q and induction of anti-C1q autoantibodies in susceptible mice. As a negative control an isotype matched monoclonal antibody was used (Ref.1).
Immunoassays (Ref.1,2).
Immunofluorescence (Ref.1).
Western blot (Ref.3): The typical starting working dilution is 1/50.
Positive Control: Spleen and kidney tissue of wild-type mice (Ref.1).
Negative Control: Spleen and kidney tissue of C1q -/- mice (Ref.1).
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: The monoclonal antibody JL-1 recognizes the collagen-like region (CLR) of mouse C1q.

Species Reactivity: **Tested:** Human, Mouse, Rat.

Storage: Store undiluted at 2-8°C.
DO NOT FREEZE!
Shelf life: one year from despatch.

General Readings:

1. Trouw LA, Groeneveld TW, Seelen MA, Duijs JM, Bajema IM, Prins FA, et al. Anti-C1q autoantibodies deposit in glomeruli but are only pathogenic in combination with glomerular C1q-containing immune complexes. J Clin Invest. 2004 Sep;114(5):679-88. PubMed PMID: 15343386.
2. Li M, Ager RR, Fraser DA, Tjokro NO, Tenner AJ. Development of a humanized C1q A chain knock-in mouse: assessment of antibody independent beta-amyloid induced complement activation. Mol Immunol. 2008 Jun;45(11):3244-52. doi: 10.1016/j.molimm.2008.02.022. Epub 2008 Apr 8. PubMed PMID: 18400300.
3. Erlich P, Dumestre-Pérard C, Ling WL, Lemaire-Vieille C, Schoehn G, Arlaud GJ, et al. Complement protein C1q forms a complex with cytotoxic prion protein oligomers. J Biol Chem. 2010 Jun 18;285(25):19267-76. doi: 10.1074/jbc.M109.071860. Epub 2010 Apr 21. PubMed PMID: 20410306.