



C1q (C1qa, Complement Component 1, q Subcomponent, alpha Polypeptide, AI255395, C1q, Complement C1q Subcomponent Subunit A)

Catalog number

C0010-10C

Supplier

United States Biological

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 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).

Applications

Suitable for use in ELISA, Western Blot, Immunofluorescence, Functional Studies and Immunohistochemistry. Other applications not tested.

Recommended Dilutions

Western Blot: 1:50

Immunohistochemistry (Frozen/acetone): 1:50

Optimal dilutions to be determined by the researcher.

Positive Control

Spleen and kidney tissue of wild type mice

Negative Control

Spleen and kidney tissue of C1q ^{-/-} mice

Storage and Stability

May be stored at 4°C for short-term only. Aliquot to avoid repeated freezing and thawing. Store at -20°C. Aliquots are stable for 12 months after receipt. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap.

Immunogen

Purified mouse C1q

Formulation



Supplied as a liquid in PBS, 0.1% BSA.

Purity

Purified by Protein G affinity chromatography.

Specificity

Recognizes the collagen-like region (CLR) of mouse C1q. Species Crossreactivity: human and rat

Product Type

Mab

Source

mouse

Isotype

IgG2b

Grade

Affinity Purified

Applications

E IF IHC WB

Crossreactivity

Hu Mo Rt

Storage

-20°C

Reference

1. Trouw, L., et al., Anti-C1q autoantibodies deposit in glomeruli but are only pathogenic in combination with glomerular C1q-containing immune complexes. *J. Clin. Invest.* 114: 679 (2004). 2. Li, M., et al., Development of a humanized C1q A chain knock-in mouse: assessment of antibody independent beta-amyloid induced complement activation. *Mol. Immunol.* 45: 3244 (2008). 3. Erlich, P., et al., Complement protein C1q forms a complex with cytotoxic prion protein oligomers. *J. Biol. Chem.* 285: 19,267 (2010).