



## C9 (004-02): sc-58936

### BACKGROUND

C9 is a plasma protein synthesized in the liver and monocytes consisting of a single polypeptide chain. C9 is a part of the membrane attack complex (MAC), an important component of the immune system. The MAC forms upon complement system activation by invading pathogenic bacteria and consists of the four major complement proteins: C5b, C6, C7 and C8. These complement proteins bind to the outer surface of the plasma membrane of the invading cell. C9 binds to the membrane associated C5b-8 protein, which leads to the circular polymerization of 12-18 C9 molecules. These polymerized C9 molecules form a ring structure in the membrane. Molecules can then diffuse freely through this transmembrane channel, causing cell lysis and destruction of the invading bacterial cell.

### REFERENCES

- Podack, E.R., Müller-Eberhard, H.J., Horst, H. and Hoppe, W. 1982. Membrane attack complex of complement (MAC): three-dimensional analysis of MAC-phospholipid vesicle recombinants. *J. Immunol.* 128: 2353-2357.
- Tschopp, J., Podack, E.R. and Müller-Eberhard, H.J. 1983. Ultrastructure of the membrane attack complex of tetramolecular C9-polymerizing complex C5b-8. *Proc. Natl. Acad. Sci. USA* 79: 7474-7478.
- Hatanaka, M., Seya, T., Yoden, A., Fukamoto, K., Semba, T. and Inai, S. 1992. Analysis of C5b-8 participation of two separate epitopes of C9 in C5b-8 binding. *Mol. Immunol.* 29: 911-916.
- Wood, A., Wing, M.G., Benham, C.D. and Compston, D.A. 1993. Specific induction of intracellular calcium oscillations by complement membrane attack on oligodendroglia. *J. Neurosci.* 13: 3319-3332.
- Husler, T., Lockert, D.H. and Sims, P.J. 1996. Role of a disulfide-bonded peptide loop within human complement C9 in the species-selectivity of complement inhibitor CD59. *Biochemistry* 35: 3263-3269
- Farkas, I., Baranyi, L., Ishikawa, Y., Okada, N., Bohata, C., Budai, D., Fukuda, A., Imai, M. and Okada, H. 2002. CD59 blocks not only the insertion of C9 into MAC but inhibits ion channel formation by homologous C5b-8 as well as C5b-9. *J. Physiol.* 539: 537-545.
- Orren, A., O'Hara, A.M., Morgan, B.P., Moran, A.P. and Würzner, R. 2003. An abnormal but functionally active complement component C9 protein found in an Irish family with subtotal C9 deficiency. *Immunology* 108: 384-390.
- Pilzer, D., Gasser, O., Moskovich, O., Schifferli, J.A. and Fishelson, Z. 2005. Emission of membrane vesicles: roles in complement resistance, immunity and cancer. *Springer Semin. Immunopathol.* 27: 375-387.
- Chauhan, A.K. and Moore, T.L. 2006. Presence of plasma complement regulatory proteins clusterin (Apo J) and Vitronectin (S40) on circulating immune complexes (CIC). *Clin. Exp. Immunol.* 145: 398-406.

### CHROMOSOMAL LOCATION

Genetic locus: C9 (human) mapping to 5p14-p12; C9 (mouse) mapping to 15 A1.

### SOURCE

C9 (004-02) is a mouse monoclonal antibody raised against full length native C9 of human origin.

### PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

C9 (004-02) is recommended for detection of C9 of human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for C9 siRNA (h): sc-62032.

Molecular Weight: 71 kDa.

### STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.