SANTA CRUZ BIOTECHNOLOGY, INC.

C4 (HYB 162-02): sc-58931

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The complement component proteins C3, C4 and C5 are potent anaphylatoxins that are released during complement activation, a system of ligand-surface protein interactions specific to cells of hematopoietic lineage. These proteins belong to the α_2-Macroglobulin family, but retain distinctive features including an anaphylatoxin domain and a netrin (NTR) domain. The human C4 gene is polymorphic at two loci, C4A and C4B, mapping to chromosome 6p21.3. C4A expresses the Rodgers (Rg) blood group Ag, while C4B expresses the Chido (Ch) blood group Ag. C4 is expressed as a precursor that is cleaved into α, β and γ chains, all of which are non-identical cleavage products. The α chain of C4 may be cleaved to produce an acidic isotype, C4a, which reacts with amino groups, and a basic isotype, C4b, which reacts with hydroxyl groups. Deficiency in the C4 gene is associated with autoimmune or immune complex disorders, such as systemic lupus erythematosus.

REFERENCES

1. Hugli, T.E. 1984. Structure and function of the anaphylatoxins. Springer Semin. Immunopathol. 7: 193-219.
2. Yu, C.Y., Belt, K.T., Giles, C.M., Campbell, R.D. and Porter, R.R. 1986. Structural basis of the polymorphism of human complement components C4A and C4B: gene size, reactivity and antigenicity. EMBO J. 5: 2873-2881.
3. Andoh, A., Fujiyama, Y., Kimura, T., Uchihara, H., Sakumoto, H., Okabe, H. and Bamba, T. 1997. Molecular characterization of complement components (C3, C4 and factor B) in human saliva. J. Clin. Immunol. 17: 404-407.
4. Martinez, O.P., Longman-Jacobsen, N., Davies, R., Chung, E.K., Yang, Y., Gaudieri, S., Dawkins, R.L. and Yu, C.Y. 2001. Genetics of human complement component C4 and evolution the central MHC. Front. Biosci. 6: D904-D913.
5. Blanchong, C.A., Chung, E.K., Rupert, K.L., Yang, Y., Yang, Z., Zhou, B., Moulds, J.M. and Yu, C.Y. 2001. Genetic, structural and functional diversities of human complement components C4A and C4B and their mouse homologs, Slp and C4. Int. Immunopharmacol. 1: 365-392.
6. Jaatinen, T., Eholuoto, M., Laitinen, T. and Lokki, M.L. 2002. Characterization of a *de novo* conversion in human complement C4 gene producing a C4B5-like protein. J. Immunol. 168: 5652-5658.
7. Rupert, K.L., Moulds, J.M., Yang, Y., Arnett, F.C., Warren, R.W., Reveille, J.D., Myones, B.L., Blanchong, C.A. and Yu, C.Y. 2002. The molecular basis of complete complement C4A and C4B deficiencies in a systemic lupus erythematosus patient with homozygous C4A and C4B mutant genes. J. Immunol. 169: 1570-1578.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: C4A (human) mapping to 6p21.3.

SOURCE

C4 (HYB 162-02) is a mouse monoclonal antibody raised against full length native C4 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

C4 (HYB 162-02) is recommended for detection of C4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for C4 siRNA (h): sc-42844, C4 shRNA Plasmid (h): sc-42844-SH and C4 shRNA (h) Lentiviral Particles: sc-42844-V.

Molecular Weight of C4: 193 kDa.

RESEARCH USE

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