SANTA CRUZ BIOTECHNOLOGY, INC.

C4α (E-20): sc-23483

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 6p21.33. 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., et al. 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., et al. 1997. Molecular characterization of complement components (C3, C4 and factor B) in human saliva. J. Clin. Immunol. 17: 404-407.
4. Martinez, O.P., et al. 2001. Genetics of human complement component C4 and evolution the central MHC. Front. Biosci. 6: D904-D913.
5. Blanchong, C.A., et al. 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., et al. 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., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: C4A/C4B (human) mapping to 6p21.33; C4a/C4b (mouse) mapping to 17 B1.

SOURCE

C4α (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of C4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-23483 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

C4α (E-20) is recommended for detection of C4 precursor, C4α chain and C4b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

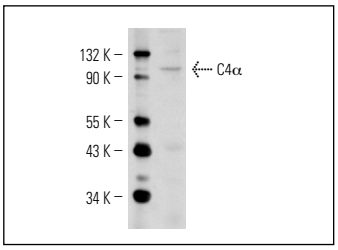
C4α (E-20) is also recommended for detection of C4 precursor, C4α chain and C4b in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for C4 siRNA (h): sc-42844, C4 siRNA (m): sc-42845, C4 shRNA Plasmid (h): sc-42844-SH, C4 shRNA Plasmid (m): sc-42845-SH, C4 shRNA (h) Lentiviral Particles: sc-42844-V and C4 shRNA (m) Lentiviral Particles: sc-42845-V.

Molecular Weight of C4α: 98 kDa.

Positive Controls: mouse liver extract: sc-2256 or Hep G2 cell lysate: sc-2227.

DATA



C4α (E-20): sc-23483. Western blot analysis of C4α expression in mouse liver tissue extract.

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 or our catalog for detailed protocols and support products.