SANTA CRUZ BIOTECHNOLOGY, INC.

C1r (F-1): sc-271642

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The complement component proteins, C1, C3, C4, and C5, are potent anaphylatoxins that are released during complement activation. Binding of these proteins to their respective G protein-coupled receptors induces proinflammatory events, such as cellular degranulation, smooth muscle contraction, arachidonic acid metabolism, cytokine release, leukocyte activation, and cellular chemotaxis. C1q, together with proenzymes C1r and C1s, yield C1, the first component of the classical pathways of the serum complement system. C1 consists of a calcium dependent trimolecular complex of C1r, C1s and C1q in a 2:2:1 ratio. C1r is a dimer formed of two identical chains that are activated by cleavage into two chains, A and B.

REFERENCES

1. Nothen, M.M., et al. 1994. A common amino acid polymorphism in complement component C1r. Hum. Mol. Genet. 3: 217.
2. Pelloux, S., et al. 1996. Identification of a cryptic protein kinase CK2 phosphorylation site in human complement protease C1r, and its use to probe intramolecular interaction. FEBS Lett. 386: 15-20.
3. Budayova-Spano, M., et al. 2002. Monomeric structures of the zymogen and active catalytic domain of complement protease C1r: further insights into the C1 activation mechanism. Structure 10: 1509-1519.
4. Budayova-Spano, M., et al. 2002. The crystal structure of the zymogen catalytic domain of complement protease C1r reveals that a disruptive mechanical stress is required to trigger activation of the C1 complex. EMBO J. 21: 231-239.
5. Grevink, M.E., et al. 2005. Levels of complement in sera from inactive SLE patients, although decreased, do not influence *in vitro* uptake of apoptotic cells. J. Autoimmun. 24: 329-336.
6. Bureeva, S., et al. 2005. Inhibition of classical pathway of complement activation with negative charged derivatives of bisphenol A and bisphenol disulphates. Bioorg. Med. Chem. 13: 1045-1052.
7. Liu, T., et al. 2005. Human plasma N-glycoproteome analysis by immunoaffinity subtraction, hydrazide chemistry, and mass spectrometry. J. Proteome Res. 4: 2070-2080.

CHROMOSOMAL LOCATION

Genetic locus: C1R (human) mapping to 12p13.31; C1ra/C1rb (mouse) mapping to 6 F2.

SOURCE

C1r (F-1) is a mouse monoclonal antibody raised against amino acids 188-313 mapping within an internal region of C1r of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

C1r (F-1) is recommended for detection of mature C1r, C1r heavy chain and C1r precursor of human and rat origin and C1ra and C1rb of mouse origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for C1r siRNA (h): sc-60299, C1r shRNA Plasmid (h): sc-60299-SH and C1r shRNA (h) Lentiviral Particles: sc-60299-V.

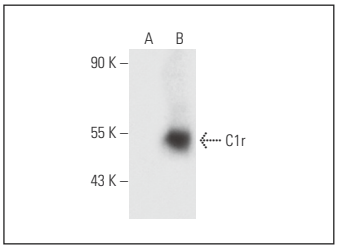
Molecular Weight of C1r: 80 kDa.

Positive Controls: C1r (h): 293T Lysate: sc-113879.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



C1r (F-1): sc-271642. Western blot analysis of C1r expression in non-transfected: sc-117752 (**A**) and human C1r transfected: sc-113879 (**B**) 293T whole cell lysates.

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.