

C1r (C-15): sc-46814

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 immunofluorescence 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 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of C1r 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-46814 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

C1r (C-15) is recommended for detection of mature C1r and C1r precursor of human origin and, to a lesser extent, C1ra and C1rb of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

C1r (C-15) is also recommended for detection of mature C1r and C1r precursor in additional species, including canine.

Molecular Weight of C1r: 80 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

MONOS
Satisfaction
Guaranteed

Try **C1r (F-7): sc-514105** or **C1r (F-1): sc-271642**, our highly recommended monoclonal alternatives to C1r (C-15).