SANTA CRUZ BIOTECHNOLOGY, INC.

C1r (F-7): sc-514105

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.

CHROMOSOMAL LOCATION

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

SOURCE

C1r (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 192-216 near the N-terminus of C1r of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

C1r (F-7) is available conjugated to agarose (sc-514105 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514105 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514105 PE), fluorescein (sc-514105 FITC), Alexa Fluor® 488 (sc-514105 AF488), Alexa Fluor® 546 (sc-514105 AF546), Alexa Fluor® 594 (sc-514105 AF594) or Alexa Fluor® 647 (sc-514105 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514105 AF680) or Alexa Fluor® 790 (sc-514105 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514105 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

C1r (F-7) is recommended for detection of mature C1r 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 siRNA (m): sc-60300, C1r shRNA Plasmid (h): sc-60299-SH, C1r shRNA Plasmid (m): sc-60300-SH, C1r shRNA (h) Lentiviral Particles: sc-60299-V and C1r shRNA (m) Lentiviral Particles: sc-60300-V.

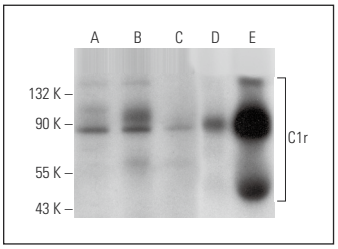
Molecular Weight of C1r: 80 kDa.

Positive Controls: C1r (h): 293T Lysate: sc-113879, Hep G2 cell lysate: sc-2227 or MOLT-4 cell lysate: sc-2233.

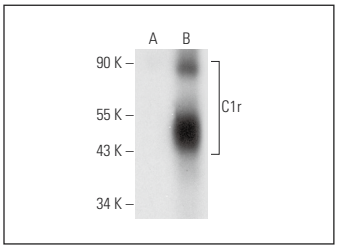
RECOMMENDED SUPPORT REAGENTS

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-7): sc-514105. Western blot analysis of C1r expression in HeLa (**A**), MOLT-4 (**B**) and Hep G2 (**C**) whole cell lysates and human kidney tissue extract (**D**) and human plasma (**E**).



C1r (F-7): sc-514105. Western blot analysis of C1r expression in non-transfected: sc-117752 (**A**) and human C1r transfected: sc-113879 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Feng, P., et al. 2021. Early pregnancy regulates expression of complement components in ovine liver. Anim. Sci. J. 92: e13660.
2. Zhang, L., et al. 2022. Complement regulation in ovine lymph nodes during early pregnancy. Exp. Ther. Med. 23: 166.
3. Zhang, L., et al. 2022. Effects of early pregnancy on the complement system in the ovine thymus. Vet. Res. Commun. 46: 137-145.
4. Han, X., et al. 2022. Selection of early pregnancy specific proteins and development a rapid immunochromatographic test strip in cows. Theriogenology 187: 127-134.
5. Richards, T., et al. 2023. Therapeutic intervention of neuroinflammatory Alzheimer disease model by inhibition of classical complement pathway with the use of anti-C1r loaded exosomes. Res. Sq. E-published.

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 for detailed protocols and support products.