SANTA CRUZ BIOTECHNOLOGY, INC.

C2 (E-7): sc-373809

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The complement component proteins, C2, 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. C2 deficiency (C2D) is the most common deficiency of the classical complement pathway and is mostly found in patients with autoimmune disease or susceptibility to bacterial infections. The N-terminal extracellular domain 1 of complement C2 receptor inhibitory trispanning, or CRIT, binds to C2 and specifically interacts with the C2a fragment. In doing so, CRIT blocks C2 cleavage and also prevents the classical pathway of C3 convertase formation.

REFERENCES

1. Manderson, A.P., et al. 2001. Continual low-level activation of the classical complement pathway. J. Exp. Med. 194: 747-756.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 217000. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Skelly, P.J. 2004. Intravascular schistosomes and complement. Trends Parasitol. 20: 370-374.
4. Inal, J.M., et al. 2005. Complement C2 receptor inhibitor trispanning: a novel human complement inhibitory receptor. J. Immunol. 174: 356-366.

CHROMOSOMAL LOCATION

Genetic locus: C2 (human) mapping to 6p21.33.

SOURCE

C2 (E-7) is a mouse monoclonal antibody raised against amino acids 204-503 mapping within an internal region of C2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-373809 X, 200 µg/0.1 ml.

C2 (E-7) is available conjugated to agarose (sc-373809 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373809 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373809 PE), fluorescein (sc-373809 FITC), Alexa Fluor® 488 (sc-373809 AF488), Alexa Fluor® 546 (sc-373809 AF546), Alexa Fluor® 594 (sc-373809 AF594) or Alexa Fluor® 647 (sc-373809 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373809 AF680) or Alexa Fluor® 790 (sc-373809 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

C2 (E-7) is recommended for detection of C2 of human 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), immunohistochemistry (including paraffin-embedded sections) (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 C2 siRNA (h): sc-95541, C2 shRNA Plasmid (h): sc-95541-SH and C2 shRNA (h) Lentiviral Particles: sc-95541-V.

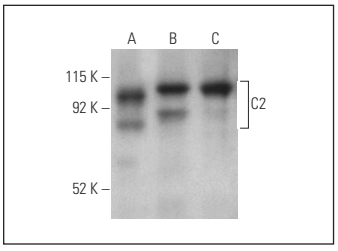
C2 (E-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of C2: 85 kDa.

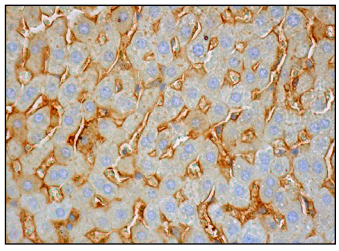
Molecular Weight of glycosylated C2: 102 kDa.

Positive Controls: SUP-T1 whole cell lysate: sc-364796, K-562 whole cell lysate: sc-2203 or MOLT-4 cell lysate: sc-2233.

DATA



C2 (E-7) HRP: sc-373809 HRP. Direct western blot analysis of C2 expression in SUP-T1 (**A**), K-562 (**B**) and MOLT-4 (**C**) whole cell lysates.



C2 (E-7): sc-373809. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing membrane staining of hepatocytes and cytoplasmic and membrane staining of hepatic sinusoidal cells.

SELECT PRODUCT CITATIONS

1. Huang, X., et al. 2018. Neuronal complement cascade drives bone cancer pain via C3R mediated microglial activation. Brain Res. 1698: 81-88.
2. Feng, P., et al. 2021. Early pregnancy regulates expression of complement components in ovine liver. Anim. Sci. J. 92: e13660.
3. Zhang, L., et al. 2022. Complement regulation in ovine lymph nodes during early pregnancy. Exp. Ther. Med. 23: 166.
4. Zhang, L., et al. 2022. Effects of early pregnancy on the complement system in the ovine thymus. Vet. Res. Commun. 46: 137-145.
5. Han, X., et al. 2022. Selection of early pregnancy specific proteins and development a rapid immunochromatographic test strip in cows. Theriogenology 187: 127-134.
6. Seifert, L., et al. 2023. The classical pathway triggers pathogenic complement activation in membranous nephropathy. Nat. Commun. 14: 473.

RESEARCH USE

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