SANTA CRUZ BIOTECHNOLOGY, INC.

CD2 (D-5): sc-365017

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD2 (also designated E-rosette receptor) interacts through its amino-terminal domain with the extracellular domain of CD58 (also designated CD2 ligand) to mediate cell adhesion. CD2/CD58 binding can enhance antigen-specific T cell activation. CD2 is a transmembrane glycoprotein that is expressed on peripheral blood T lymphocytes, NK cells and thymocytes, as well as on mouse B cells and rat splenic macrophages. CD58 is a heavily glycosylated protein with a broad tissue distribution in hematopoietic and other cells, including endothelium. Interaction between CD2 and its counterreceptor LFA3 (CD58) on opposing cells optimizes immune system recognition, thereby facilitating communication between helper T lymphocytes and antigen-presenting cells, as well as between cytolytic effectors and target cells.

REFERENCES

1. Shaw, A.S., et al. 1997. Making the T cell receptor go the distance: a topological view of T cell activation. Immunity 6: 361-369.
2. Dustin, M.L., et al. 1998. A novel adaptor protein orchestrates receptor patterning and cytoskeletal polarity in T cell contacts. Cell 94: 667-677.
3. Nishizawa, K., et al. 1998. Identification of a proline-binding motif regulating CD2-triggered T lymphocyte activation. Proc. Natl. Acad. Sci. USA 95: 14897-14902.
4. Shih, N.Y., et al. 1999. Congenital nephrotic syndrome in mice lacking CD2-associated protein. Science 286: 312-315.
5. Guan, F., et al. 2006. Autocrine VEGF-A system in podocytes regulates podocin and its interaction with CD2AP. Am. J. Physiol. Renal Physiol. 291: F422-F428.
6. Fan, Q., et al. 2006. The relationship among nephrin, podocin, CD2AP and α-actinin might not be a true "interaction" in podocyte. Kidney Int. 69: 1207-1215.
7. Xia, W., et al. 2006. Differential interactions between transforming growth factor-β3/TβR1, TAB1 and CD2AP disrupt blood-testis barrier and Sertoli-germ cell adhesion. J. Biol. Chem. 281: 16799-16813.

CHROMOSOMAL LOCATION

Genetic locus: CD2 (human) mapping to 1p13.1.

SOURCE

CD2 (D-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 319-351 at the C-terminus of CD2 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.

Blocking peptide available for competition studies, sc-365017 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CD2 (D-5) is recommended for detection of CD2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CD2 siRNA (h): sc-29970, CD2 shRNA Plasmid (h): sc-29970-SH and CD2 shRNA (h) Lentiviral Particles: sc-29970-V.

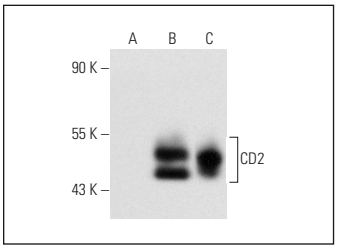
Molecular Weight of CD2: 50 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, SUP-T1 whole cell lysate: sc-364796 or CD2 (h2): 293T Lysate: sc-172563.

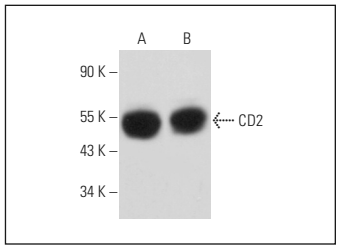
RECOMMENDED SUPPORT REAGENTS

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



CD2 (D-5): sc-365017. Western blot analysis of CD2 expression in non-transfected 293T: sc-117752 (**A**), human CD2 transfected 293T: sc-172563 (**B**) and Jurkat (**C**) whole cell lysates.



CD2 (D-5): sc-365017. Western blot analysis of CD2 expression in SUP-T1 (**A**) and Jurkat (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sable, R., et al. 2018. Proximity ligation assay to study protein-protein interactions of proteins on two different cells. Biotechniques 65: 149-157.

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.