SANTA CRUZ BIOTECHNOLOGY, INC.

CD2 (RM2-5): sc-19639

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

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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 b3/b R1, TAB1 and CD2AP disrupt blood-testis barrier and Sertoli-germ cell adhesion. J. Biol. Chem. 281: 16799-16813.
8. Konishi, H., et al. 2006. CFBP is a novel tyrosine-phosphorylated protein that might function as a regulator of CIN85/CD2AP. J. Biol. Chem. 281: 28919-28931.
9. Tossidou, I., et al. 2007. CD2AP/CIN85 balance determines receptor tyrosine kinase signaling response in podocytes. J. Biol. Chem. 282: 7457-7464.

CHROMOSOMAL LOCATION

Genetic locus: Cd2 (mouse) mapping to 3 F2.2.

SOURCE

CD2 (RM2-5) is a rat monoclonal antibody raised against BALB/c mouse thymocytes.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for cell adhesion, sc-19639 L, 200 µg/0.1 ml.

CD2 (RM2-5) is available conjugated to either phycoerythrin (sc-19639 PE) or fluorescein (sc-19639 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

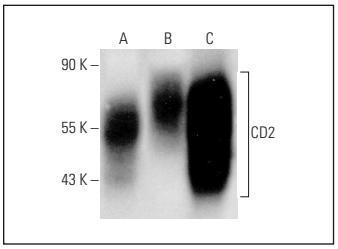
CD2 (RM2-5) is recommended for detection of CD2 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for CD2 siRNA (m): sc-29971, CD2 shRNA Plasmid (m): sc-29971-SH and CD2 shRNA (m) Lentiviral Particles: sc-29971-V.

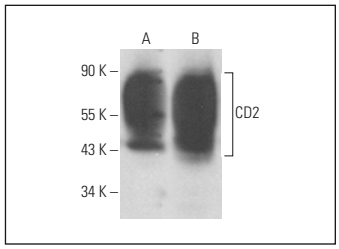
Molecular Weight of CD2: 50 kDa.

Positive Controls: CTLL-2 cell lysate: sc-2242, mouse thymus extract: sc-2406 or BW5147 cell lysate: sc-3800.

DATA



CD2 (RM2-5): sc-19639. Western blot analysis of CD2 expression in BW5147 (**A**), CTLL-2 (**B**) whole cell lysates and mouse thymus tissue extract (**C**).



CD2 (RM2-5): sc-19639. Western blot analysis of CD2 expression in WR19L whole cell lysate (**A**) and mouse thymus tissue extract (**B**).

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.