

CD2 (B-8): sc-136974

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 on opposing cells between CD2 and its counter-receptor, LFA3 (CD58), 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

- 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.
- Dustin, M.L., et al. 1998. A novel adaptor protein orchestrates receptor patterning and cytoskeletal polarity in T cell contacts. *Cell* 94: 667-677.
- 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.
- Shih, N.Y., et al. 1999. Congenital nephrotic syndrome in mice lacking CD2-associated protein. *Science* 286: 312-315.
- 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.
- 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.
- Xia, W., et al. 2006. Differential interactions between transforming growth factor β 3/ β RI, 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 (B-8) is a mouse monoclonal antibody raised against amino acids 52-281 mapping within an internal region of CD2 of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

CD2 (B-8) 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 μ g per 100-500 μ g 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 CD2 siRNA (h): sc-29970, CD2 shRNA Plasmid (h): sc-29970-SH and CD2 shRNA (h) Lentiviral Particles: sc-29970-V.

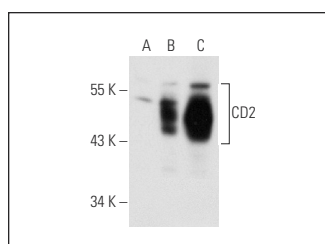
Molecular Weight of CD2: 50 kDa.

Positive Controls: CD2 (h2): 293T Lysate: sc-172563, Jurkat whole cell lysate: sc-2204 or MOLT-4 cell lysate: sc-2233.

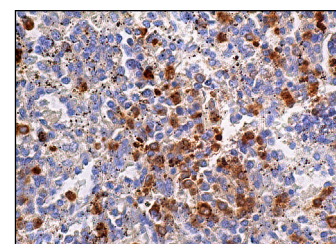
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CD2 (B-8): sc-136974. 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 (B-8): sc-136974. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of a subset of cells in the red pulp.

SELECT PRODUCT CITATIONS

- Bolognesi, M.M., et al. 2021. Antibodies validated for routinely processed tissues stain frozen sections unpredictably. *BioTechniques* 70: 137-148.

RESEARCH USE

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