

CD2 (OX34): sc-53036

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 β 3/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.

CHROMOSOMAL LOCATION

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

SOURCE

CD2 (OX34) is a mouse monoclonal antibody raised against T cell blasts from mixed lymphocyte reactions of rat 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.

CD2 (OX34) is available conjugated to either phycoerythrin (sc-53036 PE) or fluorescein (sc-53036 FITC), 200 μ g/ml, for IF, IHC(P) and FCM.

APPLICATIONS

CD2 (OX34) is recommended for detection of CD2 cell surface antigen of mouse and rat origin by Western Blotting (starting dilution 1:200, 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 flow cytometry (1 μ g per 1 x 10⁶ 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.

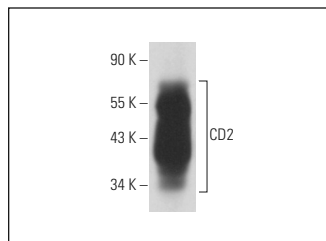
Positive Controls: rat thymus extract: sc-2401 or rat PBL whole cell lysate.

RECOMMENDED SUPPORT REAGENTS

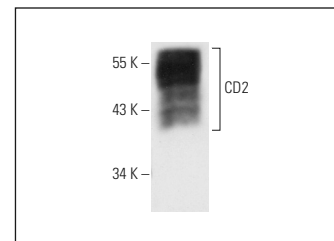
To ensure optimal results, the following support reagents are recommended:

- 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 (OX34): sc-53036. Western blot analysis of CD2 expression in rat thymus tissue extract.



CD2 (OX34): sc-53036. Western blot analysis of CD2 expression in rat PBL whole cell lysate.

SELECT PRODUCT CITATIONS

1. Pearce, L., et al. 2010. Genetic modification of primary chronic lymphocytic leukemia cells with a lentivirus expressing CD38. *Haematologica* 95: 514-517.

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.