SANTA CRUZ BIOTECHNOLOGY, INC.

CD2AP (H-290): sc-9137

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD2 associated protein (CD2AP) is a cytosolic adaptor molecule that complexes with the intracellular portion of CD2 upon T cell activation. T cell activation induces cell adhesion through CD2-mediated binding to surface ligands on antigen-presenting cells, which enhances antigen-specific T cell activation, potentiates cell clustering and induces cytoskeletal polarization. CD2AP is expressed at highest levels in liver, thymus and spleen. CD2AP contains three SH3 domains that are essential for the interaction with CD2. Mutations in CD2AP that impair this interaction result in the disruption of cell clustering and polarization in activated T lymphocytes. Mice deficient in CD2AP develop a lethal congenital nephrotic syndrome, indicating that CD2AP is also involved in maintaining the integrity of the renal glomerulus.

CHROMOSOMAL LOCATION

Genetic locus: CD2AP (human) mapping to 6p12.3; Cd2ap (mouse) mapping to 17 B3.

SOURCE

CD2AP (H-290) is a rabbit polyclonal antibody raised against amino acids 350-639 of CD2AP of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CD2AP (H-290) is recommended for detection of CD2AP of mouse, rat and human 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CD2AP siRNA (h): sc-29984, CD2AP siRNA (m): sc-29985, CD2AP siRNA (r): sc-270133, CD2AP shRNA Plasmid (h): sc-29984-SH, CD2AP shRNA Plasmid (m): sc-29985-SH, CD2AP shRNA Plasmid (r): sc-270133-SH, CD2AP shRNA (h) Lentiviral Particles: sc-29984-V, CD2AP shRNA (m) Lentiviral Particles: sc-29985-V and CD2AP shRNA (r) Lentiviral Particles: sc-270133-V.

Molecular Weight of CD2AP: 90 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, U-2 OS cell lysate: sc-2295 or MOLT-4 cell lysate: sc-2233.

STORAGE

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

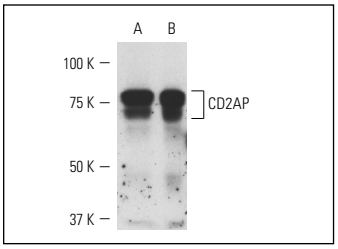
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

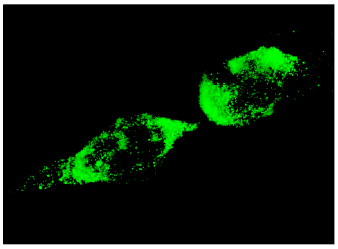
RESEARCH USE

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

DATA



CD2AP (H-290): sc-9137. Western blot analysis of CD2AP expression in A-431 (**A**) and U-2 OS (**B**) whole cell lysates.



CD2AP (H-290): sc-9137. Immunofluorescence staining of methanol-fixed A-431 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Welsch, T., et al. 2001. CD2AP and p130Cas localize to different F-actin structures in podocytes. Am. J. Physiol. Renal Physiol. 281: F769-F777.
2. Endlich, N., et al. 2009. Palladin is a dynamic actin-associated protein in podocytes. Kidney Int. 75: 214-226.
3. Reidy, K.J., et al. 2009. Semaphorin3α regulates endothelial cell number and podocyte differentiation during glomerular development. Development 136: 3979-3989.
4. Meehan, D.T., et al. 2009. Biomechanical strain causes maladaptive gene regulation, contributing to Alport glomerular disease. Kidney Int. 76: 968-976.
5. van Duijn, T.J., et al. 2010. Rac1 recruits the adapter protein CMS/CD2AP to cell-cell contacts. J. Biol. Chem. 285: 20137-20146.
6. Ma, Y., et al. 2010. CD2AP is indispensable to multistep cytotoxic process by NK cells. Mol. Immunol. 47: 1074-1082.
7. Hyvönen, M.E., et al. 2010. Lipid phosphatase SHIP2 downregulates Insulin signalling in podocytes. Mol. Cell. Endocrinol. 328: 70-79.
8. He, F.F., et al. 2011. Role of CD2-associated protein in albumin overload-induced apoptosis in podocytes. Cell Biol. Int. 35: 827-834.
9. Zhong, J., et al. 2011. The interactome of a PTB domain-containing adapter protein, Odin, revealed by SILAC. J. Proteomics 74: 294-303.
10. He, F., et al. 2011. Regulation of CD2-associated protein influences podocyte endoplasmic reticulum stress-mediated apoptosis induced by albumin overload. Gene 484: 18-25.