

CD2AP (K-20): sc-34228

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.

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.

CHROMOSOMAL LOCATION

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

SOURCE

CD2AP (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CD2AP of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-34228 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

CD2AP (K-20) 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 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).

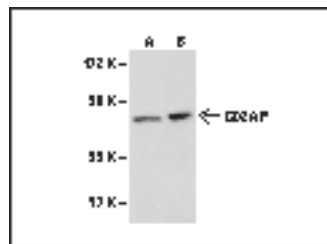
CD2AP (K-20) is also recommended for detection of CD2AP in additional species, including equine, canine and bovine.

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

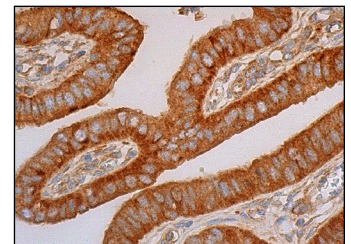
Molecular Weight of CD2AP: 90 kDa.

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

DATA



CD2AP (K-20) sc-34228. Western blot analysis of CD2AP in A-431 (A) and U-2 OS (B) whole cell lysates.



CD2AP (K-20): sc-34228. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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

PROTOCOLS

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



Try **CD2AP (B-4): sc-25272**, our highly recommended monoclonal alternative to CD2AP (K-20).