SANTA CRUZ BIOTECHNOLOGY, INC.

PCDH1 (S-6): sc-81816



BACKGROUND

Protocadherins are a subfamily of cadherins, a large group of related glycoproteins that mediate calcium-dependent cell-to-cell adhesion via a homophilic mechanism. Involved in a variety of functions, protocadherins help to regulate neural development and synapse formation. PCDH1 (protocadherin 1), also known as PC42 or PCDH42, is a 1026 amino acid single-pass type I membrane protein that contains seven cadherin domains and is a member of the protocadherin family. Localized to cell-cell and cell-matrix boundaries and expressed at high levels in brain and neuro-glial cells, PCDH1 is thought to be involved in cell adhesion and cell-cell interactions and may play a role in neuronal development. PCDH1 contains a C-terminal cytoplasmic region, an extracellular region and a transmembrane region, and is expressed as two isoforms due to alternative splicing events.

REFERENCES

- 1. Sano, K., et al. 1993. Protocadherins: a large family of cadherin-related molecules in central nervous system. EMBO J. 12: 2249-2256.
- Sago, H., et al. 1995. Cloning, expression, and chromosomal localization of a novel cadherin-related protein, protocadherin-3. Genomics 29: 631-640.
- Yagi, T. and Takeichi, M. 2000. Cadherin superfamily genes: functions, genomic organization, and neurologic diversity. Genes Dev. 14: 1169-1180.
- Nollet, F., et al. 2000. Phylogenetic analysis of the cadherin superfamily allows identification of six major subfamilies besides several solitary members. J. Mol. Biol. 299: 551-572.
- Wu, Q. and Maniatis, T. 2000. Large exons encoding multiple ectodomains are a characteristic feature of protocadherin genes. Proc. Natl. Acad. Sci. USA 97: 3124-3129.
- 6. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603626. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- 7. Triana-Baltzer, G.B. and Blank, M. 2006. Cytoplasmic domain of protocadherin- α enhances homophilic interactions and recognizes cytoskeletal elements. J. Neurobiol. 66: 393-407.

CHROMOSOMAL LOCATION

Genetic locus: PCDH1 (human) mapping to 5q31.3.

SOURCE

PCDH1 (S-6) is a mouse monoclonal antibody raised against recombinant PCDH1 of human origin.

PRODUCT

Each vial contains 100 μg lgG1 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

PCDH1 (S-6) is recommended for detection of PCDH1 of 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), 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 PCDH1 siRNA (h): sc-91705, PCDH1 shRNA Plasmid (h): sc-91705-SH and PCDH1 shRNA (h) Lentiviral Particles: sc-91705-V.

Molecular Weight of PCDH1: 111 kDa.

Positive Controls: PCDH1 (h): 293T Lysate: sc-115449.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA





PCDH1 (S-6): sc-81816. Western blot analysis of PCDH1 expression in non-transfected: sc-117752 (A) and human PCDH1 transfected: sc-115449 (B) 293T whole cell lysates.

PCDH1 (S-6): sc-81816. Immunofluorescence staining of paraformaldehyde-fixed A-431 cells showing membrane and cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human salivary gland tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Dieterle, M.E., et al. 2021. Genetic depletion studies inform receptor usage by virulent hantaviruses in human endothelial cells. Elife 10: e69708.

RESEARCH USE

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