

# 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 7 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.
2. Sago, H., et al. 1995. Cloning, expression, and chromosomal localization of a novel cadherin-related protein, protocadherin-3. *Genomics* 29: 631-640.
3. Yagi, T. and Takeichi, M. 2000. Cadherin superfamily genes: functions, genomic organization, and neurologic diversity. *Genes Dev.* 14: 1169-1180.
4. 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.
5. 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<sup>™</sup>. 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- $\alpha$  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  $\mu$ g IgG<sub>1</sub> 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  $\mu$ g per 100-500  $\mu$ 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 PCDH1 siRNA (h): sc-91705, PCDH1 shRNA Plasmid (h): sc-91705-SH and PCDH1 shRNA (h) Lentiviral Particles: sc-91705-V.

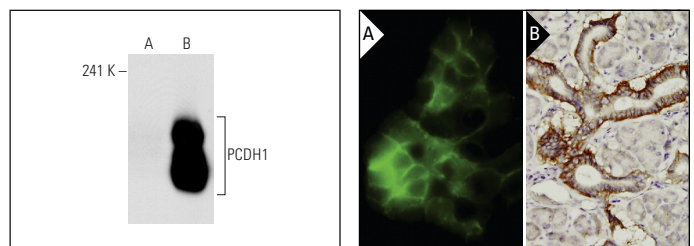
Molecular Weight of PCDH1: 111 kDa.

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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  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.