SANTA CRUZ BIOTECHNOLOGY, INC.

PCDH1 (B-11): sc-398263

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 1,026 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 neuroglial 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.

CHROMOSOMAL LOCATION

Genetic locus: PCDH1 (human) mapping to 5q31.3; Pcdh1 (mouse) mapping to 18 B3.

SOURCE

PCDH1 (B-11) is a mouse monoclonal antibody raised against amino acids 237-329 mapping near the N-terminus of PCDH1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PCDH1 (B-11) is available conjugated to agarose (sc-398263 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398263 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398263 PE), fluorescein (sc-398263 FITC), Alexa Fluor® 488 (sc-398263 AF488), Alexa Fluor® 546 (sc-398263 AF546), Alexa Fluor® 594 (sc-398263 AF594) or Alexa Fluor® 647 (sc-398263 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398263 AF680) or Alexa Fluor® 790 (sc-398263 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

PCDH1 (B-11) is recommended for detection of PCDH1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 PCDH1 siRNA (h): sc-91705, Pcdh1 siRNA (m): sc-152054, PCDH1 shRNA Plasmid (h): sc-91705-SH, Pcdh1 shRNA Plasmid (m): sc-152054-SH, PCDH1 shRNA (h) Lentiviral Particles: sc-91705-V and Pcdh1 shRNA (m) Lentiviral Particles: sc-152054-V.

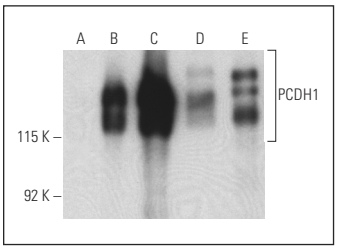
Molecular Weight of PCDH1: 111 kDa.

Positive Controls: PCDH1 (h): 293T Lysate: sc-115449, mouse brain extract: sc-2253 or A-431 whole cell lysate: sc-2201.

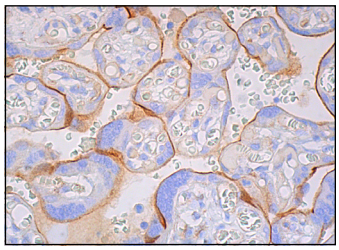
RECOMMENDED SUPPORT REAGENTS

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.

DATA



PCDH1 (B-11): sc-398263. Western blot analysis of PCDH1 expression in non-transfected 293T: sc-117752 (**A**), human PCDH1 transfected 293T: sc-115449 (**B**), human PCDH1 transfected 293T: sc-373601 (**C**) and A-431 (**D**) whole cell lysates and mouse brain tissue extract (**E**). Detection reagent used: m-IgG_1 BP-HRP: sc-525408.



PCDH1 (B-11): sc-398263. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane staining of trophoblastic cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

SELECT PRODUCT CITATIONS

1. Tang, M., et al. 2024. Reactive astrocytes promote tumor progression by up-regulating tumor protocadherin 1 expression in lung cancer brain metastasis. Biochem. Biophys. Res. Commun. 732: 150431.

STORAGE

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