

# PCDH2 (5K7): sc-134416

## BACKGROUND

Protocadherins are a large family of cadherin-like cell adhesion proteins that are involved in the establishment and maintenance of neuronal connections in the brain. There are three protocadherin gene clusters, designated  $\alpha$ ,  $\beta$  and  $\gamma$ , all of which contain multiple tandemly arranged genes. PCDH2 (protocadherin-2), also known as PCDHGC3 (protocadherin  $\gamma$  subfamily C, 3) or PC43, is a 934 amino acid single-pass type I membrane protein that contains six cadherin domains and belongs to the protocadherin  $\gamma$  family. Functioning as a calcium-dependent cell-adhesion protein, PCDH2 is thought to be involved in the establishment and maintenance of neuronal connections within the brain. Multiple isoforms of PCDH2 exist due to alternative splicing events.

## REFERENCES

- Sano, K., Tanihara, H., Heimark, R.L., Obata, S., Davidson, M., St John, T., Taketani, S. and Suzuki, S. 1993. Protocadherins: a large family of cadherin-related molecules in central nervous system. *EMBO J.* 12: 2249-2256.
- Sago, H., Kitagawa, M., Obata, S., Mori, N., Taketani, S., Rochelle, J.M., Seldin, M.F., Davidson, M., St John, T. and Suzuki, S.T. 1995. Cloning, expression, and chromosomal localization of a novel cadherin-related protein, protocadherin-3. *Genomics* 29: 631-640.
- Wu, Q. and Maniatis, T. 1999. A striking organization of a large family of human neural cadherin-like cell adhesion genes. *Cell* 97: 779-790.
- Yagi, T. and Takeichi, M. 2000. Cadherin superfamily genes: functions, genomic organization, and neurologic diversity. *Genes Dev.* 14: 1169-1180.
- Nollet, F., Kools, P. and van Roy, F. 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., Zhang, T., Cheng, J.F., Kim, Y., Grimwood, J., Schmutz, J., Dickson, M., Noonan, J.P., Zhang, M.Q., Myers, R.M. and Maniatis, T. 2001. Comparative DNA sequence analysis of mouse and human protocadherin gene clusters. *Genome Res.* 11: 389-404.
- Reiss, K., Maretzky, T., Haas, I.G., Schulte, M., Ludwig, A., Frank, M. and Saftig, P. 2006. Regulated ADAM10-dependent ectodomain shedding of  $\gamma$ -protocadherin C3 modulates cell-cell adhesion. *J. Biol. Chem.* 281: 21735-21744.
- Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 603627. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: PCDHGC3 (human) mapping to 5q31.3.

## SOURCE

PCDH2 (5K7) is a mouse monoclonal antibody raised against recombinant PCDH2 protein of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

PCDH2 (5K7) is recommended for detection of PCDH2 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PCDH2 siRNA (h): sc-76082, PCDH2 shRNA Plasmid (h): sc-76082-SH and PCDH2 shRNA (h) Lentiviral Particles: sc-76082-V.

Molecular Weight (predicted) of PCDH2: 101 kDa.

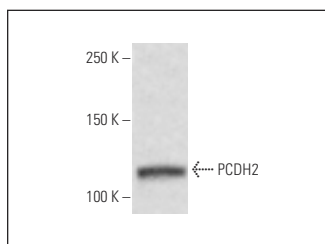
Molecular Weight (observed) of PCDH2: 118-137 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

## 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™ 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).

## DATA



PCDH2 (5K7): sc-134416. Western blot analysis of PCDH2 expression in Jurkat whole cell lysate.

## SELECT PRODUCT CITATIONS

- Weekes, M.P., Tomasec, P., Huttlin, E.L., Fielding, C.A., Nusinow, D., Stanton, R.J., Wang, E.C., Aicheler, R., Murrell, I., Wilkinson, G.W., Lehner, P.J. and Gygi, S.P. 2014. Quantitative temporal viromics: an approach to investigate host-pathogen interaction. *Cell* 157: 1460-1472.

## STORAGE

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