

PCDH21 (E-12): sc-107054

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 α , β and γ , all of which contain multiple tandemly arranged genes. PCDH21 (protocadherin 21), also known as PRCAD, is an 859 amino acid single-pass membrane protein that localizes to the outer segments of photoreceptor cells and contains 6 cadherin domains. Existing as multiple alternatively spliced isoforms, PCDH21 functions as a calcium-dependent cell adhesion protein that is thought to be required for the structural integrity of photoreceptor cells and may be involved in the formation and maintenance of neuronal networks.

REFERENCES

1. Suzuki, S.T. 2000. Recent progress in protocadherin research. *Exp. Cell Res.* 261: 13-18.
2. Yagi, T. and Takeichi, M. 2000. Cadherin superfamily genes: functions, genomic organization, and neurologic diversity. *Genes Dev.* 14: 1169-1180.
3. 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.
4. 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.
5. 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.
6. Rattner, A., Smallwood, P.M., Williams, J., Cooke, C., Savchenko, A., Lyubarsky, A., Pugh, E.N. and Nathans, J. 2001. A photoreceptor-specific cadherin is essential for the structural integrity of the outer segment and for photoreceptor survival. *Neuron* 32: 775-786.
7. Bolz, H., Ebermann, I. and Gal, A. 2005. Protocadherin-21 (PCDH21), a candidate gene for human retinal dystrophies. *Mol. Vis.* 11: 929-933.
8. Online Mendelian Inheritance in Man, OMIM[™]. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 609502. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: CDHR1 (human) mapping to 10q23.1; Cdhr1 (mouse) mapping to 14 B.

SOURCE

PCDH21 (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of PCDH21 of human origin.

STORAGE

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

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-107054 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PCDH21 (E-12) is recommended for detection of PCDH21 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other PCDH family members.

PCDH21 (E-12) is also recommended for detection of PCDH21 in additional species, including canine.

Suitable for use as control antibody for PCDH21 siRNA (h): sc-90632, Pcdh21 siRNA (m): sc-152061, PCDH21 shRNA Plasmid (h): sc-90632-SH, Pcdh21 shRNA Plasmid (m): sc-152061-SH, PCDH21 shRNA (h) Lentiviral Particles: sc-90632-V and Pcdh21 shRNA (m) Lentiviral Particles: sc-152061-V.

Molecular Weight of PCDH21: 94/82 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

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.