

PCDHA7/9 (M-40): sc-292689

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 (PCDH) gene clusters, designated α , β and γ , all of which contain multiple tandemly arranged genes. The protein products of PCDH- α genes interact with Integrin β 1 to promote cell adhesion and form oligomers with PCDH- γ proteins at specific membrane sites. PCDHA7 (protocadherin α -7) is a 937 amino acid single-pass transmembrane protein that contains 6 cadherin domains and functions as a potential calcium-dependent cell-adhesion protein, possibly playing a role in the creation and maintenance of neuronal connections. There are two isoforms of PCDHA7 that are produced as a result of alternative splicing events.

REFERENCES

1. 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.
2. Tasic, B., Nabholz, C.E., Baldwin, K.K., Kim, Y., Rueckert, E.H., Ribich, S.A., Cramer, P., Wu, Q., Axel, R. and Maniatis, T. 2002. Promoter choice determines splice site selection in protocadherin α and γ pre-mRNA splicing. *Mol. Cell* 10: 21-33.
3. Hirayama, T. and Yagi, T. 2006. The role and expression of the protocadherin- α clusters in the CNS. *Curr. Opin. Neurobiol.* 16: 336-342.
4. Kaneko, R., Kato, H., Kawamura, Y., Esumi, S., Hirayama, T., Hirabayashi, T. and Yagi, T. 2006. Allelic gene regulation of Pcdh- α and Pcdh- γ clusters involving both monoallelic and biallelic expression in single Purkinje cells. *J. Biol. Chem.* 281: 30551-30560.
5. Ribich, S., Tasic, B. and Maniatis, T. 2006. Identification of long-range regulatory elements in the protocadherin- α gene cluster. *Proc. Natl. Acad. Sci. USA* 103: 19719-19724.
6. Bonn, S., Seeburg, P.H. and Schwarz, M.K. 2007. Combinatorial expression of α - and γ -protocadherins alters their presenilin-dependent processing. *Mol. Cell Biol.* 27: 4121-4132.
7. Yagi, T. 2008. Clustered protocadherin family. *Dev. Growth Differ.* 50: S131-S140.
8. Kawaguchi, M., Toyama, T., Kaneko, R., Hirayama, T., Kawamura, Y. and Yagi, T. 2008. Relationship between DNA methylation states and transcription of individual isoforms encoded by the protocadherin- α gene cluster. *J. Biol. Chem.* 283: 12064-12075.

CHROMOSOMAL LOCATION

Genetic locus: Pcdha7 (mouse) mapping to 18 B2, Pcdha9 (mouse) mapping to 18 B3.

SOURCE

PCDHA7/9 (M-40) is a rabbit polyclonal antibody raised against amino acids 301-340 mapping within an internal region of PCDHA7 of mouse origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PCDHA7/9 (M-40) is recommended for detection of PCDHA7 and PCDHA9 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Molecular Weight of PCDHA7/9: 101 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.