

PCDHGA5 (S-12): sc-109823

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. The protocadherin γ cluster consists of three subfamilies (A, B and C). As a member of the γ sub-family A, PCDHGA5 (protocadherin γ A5) is a 931 amino acid protein that is one of 22 proteins encoded by the protocadherin γ cluster. Typical of γ protocadherins, PCDHGA5 contains six cadherin motifs and is a type I transmembrane receptor expressed in the central nervous system. With localization to synapses, members of the γ cluster of protocadherins are essential for neuronal survival. There are two isoforms of PCDHGA5 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. 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.
3. Wang, X., Weiner, J.A., Levi, S., Craig, A.M., Bradley, A. and Sanes, J.R. 2002. γ protocadherins are required for survival of spinal interneurons. *Neuron* 36: 843-854.
4. Kirov, G., Georgieva, L., Williams, N., Nikolov, I., Norton, N., Toncheva, D., O'Donovan, M. and Owen, M.J. 2003. Variation in the protocadherin γ A gene cluster. *Genomics* 82: 433-440.
5. Frank, M., Ebert, M., Shan, W., Phillips, G.R., Arndt, K., Colman, D.R. and Kemler, R. 2005. Differential expression of individual γ -protocadherins during mouse brain development. *Mol. Cell. Neurosci.* 29: 603-616.
6. Reiss, K., Maretzky, T., Haas, I.G., Schulte, M., Ludwig, A., Frank, M. and Saftig, P. 2006. Regulated ADAM10-dependent ectodomain shedding of γ -protocadherin C3 modulates cell-cell adhesion. *J. Biol. Chem.* 281: 21735-21744.
7. 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.
8. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 606292. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: PCDHGA5 (human) mapping to 5q31.3; Pcdhga5 (mouse) mapping to 18 B3.

SOURCE

PCDHGA5 (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of PCDHGA5 of human origin.

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-109823 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PCDHGA5 (S-12) is recommended for detection of PCDHGA5 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 PCDHGA family members.

PCDHGA5 (S-12) is also recommended for detection of PCDHGA5 in additional species, including equine and bovine.

Suitable for use as control antibody for PCDHGA5 siRNA (h): sc-106838, Pcdhga5 siRNA (m): sc-152092, PCDHGA5 shRNA Plasmid (h): sc-106838-SH, Pcdhga5 shRNA Plasmid (m): sc-152092-SH, PCDHGA5 shRNA (h) Lentiviral Particles: sc-106838-V and Pcdhga5 shRNA (m) Lentiviral Particles: sc-152092-V.

Molecular Weight of PCDHGA5: 101 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.

STORAGE

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

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.