

# PCDHGB2 (N-12): sc-131301

## 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. The protocadherin  $\gamma$  cluster consists of three subfamilies (A, B and C). As a member of the  $\gamma$  subfamily A, PCDHGA1 (protocadherin  $\gamma$  A1) is a 931 amino acid protein that is one of 22 proteins encoded by the protocadherin  $\gamma$  cluster. Typical of  $\gamma$  protocadherins, PCDHGB2 contains six cadherin motifs and is a type I transmembrane receptor expressed in the central nervous system. With localization to synapses, members of the gamma cluster of protocadherins are essential for neuronal survival. There are two isoforms of PCDHGB2 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.  $\gamma$  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  $\gamma$  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  $\gamma$ -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  $\gamma$ -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  $\alpha$ - and  $\gamma$ -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: 606300. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: PCDHGB2 (human) mapping to 5q31.3; Pcdhgb2 (mouse) mapping to 18 B3.

## SOURCE

PCDHGB2 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of PCDHGB2 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-131301 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PCDHGB2 (N-12) is recommended for detection of PCDHGB2 isoforms 1 and 2 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.

PCDHGB2 (N-12) is also recommended for detection of PCDHGB2 in additional species, including equine and porcine.

Suitable for use as control antibody for PCDHGB2 siRNA (h): sc-106914, Pcdhgb2 siRNA (m): sc-152098, PCDHGB2 shRNA Plasmid (h): sc-106914-SH, Pcdhgb2 shRNA Plasmid (m): sc-152098-SH, PCDHGB2 shRNA (h) Lentiviral Particles: sc-106914-V and Pcdhgb2 shRNA (m) Lentiviral Particles: sc-152098-V.

Molecular Weight of PCDHGB2: 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](http://www.scbt.com) or our catalog for detailed protocols and support products.