

# PCDHA12 (N-13): sc-109753

## 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  $\alpha$ ,  $\beta$  and  $\gamma$ , all of which contain multiple tandemly arranged genes. The protein products of PCDH- $\alpha$  genes interact with Integrin  $\beta$ 1 to promote cell adhesion and form oligomers with PCDH- $\gamma$  proteins at specific membrane sites. PCDHA12 (protocadherin  $\alpha$ -12) is a 941 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 PCDHA12 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.
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3. Hirayama, T. and Yagi, T. 2006. The role and expression of the protocadherin- $\alpha$  clusters in the CNS. *Curr. Opin. Neurobiol.* 16: 336-342.
4. Kaneko, R., et al. 2006. Allelic gene regulation of PCDH- $\alpha$  and PCDH- $\gamma$  clusters involving both monoallelic and biallelic expression in single Purkinje cells. *J. Biol. Chem.* 281: 30551-30560.
5. Ribich, S., et al. 2006. Identification of long-range regulatory elements in the protocadherin- $\alpha$  gene cluster. *Proc. Natl. Acad. Sci. USA* 103: 19719-19724.
6. Bonn, S., et al. 2007. Combinatorial expression of  $\alpha$ - and  $\gamma$ -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., et al. 2008. Relationship between DNA methylation states and transcription of individual isoforms encoded by the protocadherin- $\alpha$  gene cluster. *J. Biol. Chem.* 283: 12064-12075.

## CHROMOSOMAL LOCATION

Genetic locus: PCDHA12 (human) mapping to 5q31.3.

## SOURCE

PCDHA12 (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of PCDHA12 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-109753 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PCDHA12 (N-13) is recommended for detection of PCDHA12 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)], 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 PCDHA family members.

PCDHA12 (N-13) is also recommended for detection of PCDHA12 in additional species, including canine.

Suitable for use as control antibody for PCDHA12 siRNA (h): sc-106370, PCDHA12 shRNA Plasmid (h): sc-106370-SH and PCDHA12 shRNA (h) Lentiviral Particles: sc-106370-V.

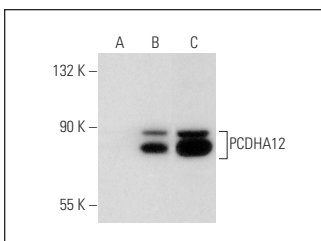
Molecular Weight of PCDHA12: 102 kDa.

Positive Controls: PCDHA12 (h): 293T Lysate: sc-372779 or HeLa whole cell lysate: sc-2200.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



PCDHA12 (N-13): sc-109753. Western blot analysis of PCDHA12 expression in non-transfected 293T: sc-117752 (A), human PCDHA12 transfected 293T: sc-372779 (B) and HeLa (C) whole cell lysates.

## 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.