

# PCDHB15/Pcdhb22 (H-300): sc-68407

## 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. PCDHB15 (protocadherin  $\beta$  15) is a 787 amino acid protein that is one of 16 proteins in the protocadherin  $\beta$  cluster. Unlike the  $\alpha$  and  $\gamma$ , gene clusters whose genes are spliced to downstream constant region exons during transcription, members of the  $\beta$  cluster (such as PCDHB15) do not use constant-region exons to produce mRNAs. As a result, each protocadherin  $\beta$  gene encodes the transmembrane, extracellular and short cytoplasmic domains of the protein. Localized to the cell membrane, PCDHB15 is a single-pass type I membrane protein that contains six cadherin domains. Pcdhb22 (protocadherin  $\beta$  22) is the 794 amino acid rodent homolog of human PCDHB15.

## REFERENCES

1. Wu, Q., et al. 2001. Comparative DNA sequence analysis of mouse and human protocadherin gene clusters. *Genome Res.* 11: 389-404.
2. Vanhalst, K., et al. 2001. The human and murine protocadherin  $\beta$  one-exon gene families show high evolutionary conservation, despite the difference in gene number. *FEBS Lett.* 495: 120-125.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606341. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Miki, R., et al. 2005. Identification and characterization of coding single-nucleotide polymorphisms within human protocadherin  $\alpha$  and  $\beta$  gene clusters. *Gene* 349: 1-14.
5. Yang, X., et al. 2005. A human- and male-specific protocadherin that acts through the Wnt signaling pathway to induce neuroendocrine transdifferentiation of prostate cancer cells. *Cancer Res.* 65: 5263-5271.
6. Sjöblom, T., et al. 2006. The consensus coding sequences of human breast and colorectal cancers. *Science* 314: 268-274.

## CHROMOSOMAL LOCATION

Genetic locus: PCDHB15 (human) mapping to 5q31.3; Pcdhb22 (mouse) mapping to 18 B3.

## SOURCE

PCDHB15/Pcdhb22 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping within an N-terminal extracellular domain of PCDHB15 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.

## STORAGE

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

## APPLICATIONS

PCDHB15/Pcdhb22 (H-300) is recommended for detection of PCDHB15 of human origin and Pcdhb22 of mouse and rat 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).

Suitable for use as control antibody for PCDHB15 siRNA (h): sc-62757, Pcdhb22 siRNA (m): sc-62758, PCDHB15 shRNA Plasmid (h): sc-62757-SH, Pcdhb22 shRNA Plasmid (m): sc-62758-SH, PCDHB15 shRNA (h) Lentiviral Particles: sc-62757-V and Pcdhb22 shRNA (m) Lentiviral Particles: sc-62758-V.

Molecular Weight of PCDHB15: 86 kDa.

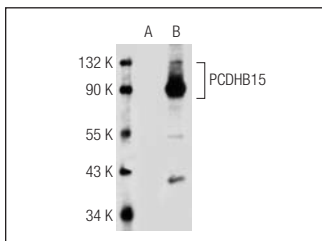
Molecular Weight of Pcdhb22: 90 kDa.

Positive Controls: PCDHB15 (h): 293T Lysate: sc-115416 or mouse brain extract: sc-2253.

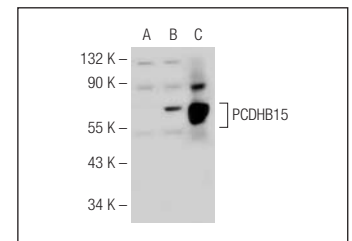
## RECOMMENDED SECONDARY REAGENTS

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.

## DATA



PCDHB15/Pcdhb22 (H-300): sc-68407. Western blot analysis of PCDHB15 expression in non-transfected: sc-117752 (A) and human PCDHB15 transfected: sc-115416 (B) 293T whole cell lysates.



PCDHB15/Pcdhb22 (H-300): sc-68407. Western blot analysis of PCDHB15 expression in non-transfected: sc-117752 (A) and human PCDHB15 transfected: sc-174454 (B) 293T whole cell lysates and mouse brain tissue extract (C).

## SELECT PRODUCT CITATIONS

1. Han, M.H., et al. 2009. Proteomic analysis reveals overlapping functions of clustered protocadherins. *Mol. Cell Proteomics*. E-published.

## RESEARCH USE

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