

# PCDHB15/Pcdhb22 (F-10): sc-133257

## 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. Pcdhb22 (protocadherin  $\beta$  22), also known as PcdhbV or Pcdhb15, is a 794 amino acid murine protein that is thought to function as a calcium-dependent cell-adhesion protein. Pcdhb22 is a homolog of human PCDHB15 (protocadherin  $\beta$  15), 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.

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

PCDHB15/Pcdhb22 (F-10) is a mouse monoclonal 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<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PCDHB15/Pcdhb22 (F-10) is available conjugated to agarose (sc-133257 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133257 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133257 PE), fluorescein (sc-133257 FITC), Alexa Fluor® 488 (sc-133257 AF488), Alexa Fluor® 546 (sc-133257 AF546), Alexa Fluor® 594 (sc-133257 AF594) or Alexa Fluor® 647 (sc-133257 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133257 AF680) or Alexa Fluor® 790 (sc-133257 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

PCDHB15/Pcdhb22 (F-10) is recommended for detection of PCDHB15 of human origin and Pcdhb22 of mouse and rat origin by Western Blotting (starting dilution 1:100, 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.

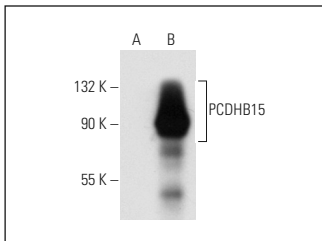
Molecular Weight of PCDHB15/Pcdhb22: 90 kDa.

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

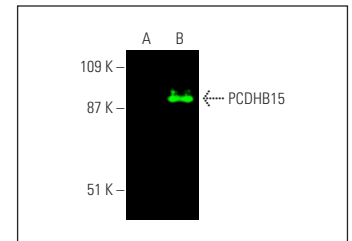
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



PCDHB15/Pcdhb22 (F-10): sc-133257. 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 (F-10): sc-133257. Near-infrared western blot analysis of PCDHB15 expression in non-transfected: sc-117752 (A) and human PCDHB15 transfected: sc-174444 (B) 293T whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG $\kappa$  BP-CFL 680: sc-516180.

## 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) for detailed protocols and support products.