

PCDH21 (G-9): sc-514574

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. PCDH21 (protocadherin 21), also known as PRCAD, is an 859 amino acid single-pass membrane protein that localizes to the outer segments of photoreceptor cells and contains six cadherin domains. Existing as multiple alternatively spliced isoforms, PCDH21 functions as a calcium-dependent cell adhesion protein that is thought to be required for the structural integrity of photoreceptor cells and may be involved in the formation and maintenance of neuronal networks.

REFERENCES

1. Suzuki, S.T. 2000. Recent progress in protocadherin research. *Exp. Cell Res.* 261: 13-18.
2. Yagi, T. and Takeichi, M. 2000. Cadherin superfamily genes: functions, genomic organization, and neurologic diversity. *Genes Dev.* 14: 1169-1180.
3. Nollet, F., et al. 2000. Phylogenetic analysis of the cadherin superfamily allows identification of six major subfamilies besides several solitary members. *J. Mol. Biol.* 299: 551-572.
4. Wu, Q. and Maniatis, T. 2000. Large exons encoding multiple ectodomains are a characteristic feature of protocadherin genes. *Proc. Natl. Acad. Sci. USA* 97: 3124-3129.
5. Wu, Q., et al. 2001. Comparative DNA sequence analysis of mouse and human protocadherin gene clusters. *Genome Res.* 11: 389-404.
6. Rattner, A., et al. 2001. A photoreceptor-specific cadherin is essential for the structural integrity of the outer segment and for photoreceptor survival. *Neuron* 32: 775-786.

CHROMOSOMAL LOCATION

Genetic locus: CDHR1 (human) mapping to 10q23.1; Cdh1 (mouse) mapping to 14 B.

SOURCE

PCDH21 (G-9) is a mouse monoclonal antibody raised against amino acids 329-527 mapping within an internal region of PCDH21 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PCDH21 (G-9) is available conjugated to agarose (sc-514574 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514574 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514574 PE), fluorescein (sc-514574 FITC), Alexa Fluor[®] 488 (sc-514574 AF488), Alexa Fluor[®] 546 (sc-514574 AF546), Alexa Fluor[®] 594 (sc-514574 AF594) or Alexa Fluor[®] 647 (sc-514574 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514574 AF680) or Alexa Fluor[®] 790 (sc-514574 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

PCDH21 (G-9) is recommended for detection of PCDH21 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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 PCDH21 siRNA (h): sc-90632, Pcdh21 siRNA (m): sc-152061, PCDH21 shRNA Plasmid (h): sc-90632-SH, Pcdh21 shRNA Plasmid (m): sc-152061-SH, PCDH21 shRNA (h) Lentiviral Particles: sc-90632-V and Pcdh21 shRNA (m) Lentiviral Particles: sc-152061-V.

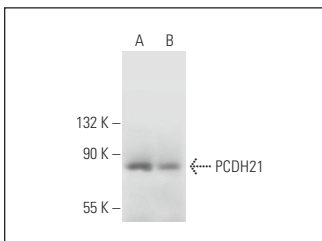
Molecular Weight of PCDH21 isoforms: 94/82 kDa.

Positive Control: Y79 cell lysate: sc-2240 or ARPE-19 whole cell lysate: sc-364357.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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



PCDH21 (G-9): sc-514574. Western blot analysis of PCDH21 expression in Y79 (A) and ARPE-19 (B) 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.