SANTA CRUZ BIOTECHNOLOGY, INC.

PCDHGB3 (F-9): sc-515109

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. The protocadherein γ cluster consists of three subfamilies (A, B and C). As a member of the γ subfamily B, PCDHGB3 (protocadherin γ B3) is a 929 amino acid protein that is one of 22 proteins encoded by the protocadherin γ cluster. Typical of γ protocadherins, PCDHGB3 contains six cadherin motifs and is a type I transmembrane receptor expressed in the central nervous system. With localization to synapses, members of the γ cluster of protocadherins are essential for neuronal survival. There are two isoforms of PCDHGB3 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., et al. 2001. Compar-ative DNA sequence analysis of mouse and human protocadherin gene clusters. Genome Res. 11: 389-404.
3. Wang, X., et al. 2002. γ protocadherins are required for survival of spinal interneurons. Neuron 36: 843-854.
4. Kirov, G., et al. 2003. Variation in the protocadherin γ A gene cluster. Genomics 82: 433-440.
5. Frank, M., et al. 2005. Differential expression of individual γ-protocadherins during mouse brain development. Mol. Cell. Neurosci. 29: 603-616.
6. Reiss, K., et al. 2006. Regulated ADAM10-dependent ectodomain shedding of γ-protocadherin C3 modulates cell-cell adhesion. J. Biol. Chem. 281: 21735-21744.

CHROMOSOMAL LOCATION

Genetic locus: PCDHGB3 (human) mapping to 5q31.3; Pcdhgb8 (mouse) mapping to 18 B3.

SOURCE

PCDHGB3 (F-9) is a mouse monoclonal antibody raised against amino acids 343-406 mapping within an internal region of PCDHGB3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PCDHGB3 (F-9) is available conjugated to agarose (sc-515109 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515109 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515109 PE), fluorescein (sc-515109 FITC), Alexa Fluor® 488 (sc-515109 AF488), Alexa Fluor® 546 (sc-515109 AF546), Alexa Fluor® 594 (sc-515109 AF594) or Alexa Fluor® 647 (sc-515109 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515109 AF680) or Alexa Fluor® 790 (sc-515109 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PCDHGB3 (F-9) is recommended for detection of PCDHGB3 isoforms 1 and 2 of human origin, and Pcdhgb8 of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 PCDHGB3 siRNA (h): sc-106778, PCDHGB3 shRNA Plasmid (h): sc-106778-SH and PCDHGB3 shRNA (h) Lentiviral Particles: sc-106778-V.

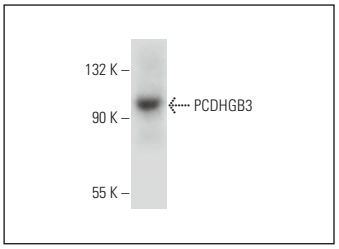
Molecular Weight of PCDHGB3: 101 kDa.

Positive Controls: human brain extract: sc-364375 or mouse hypothalamus extract: sc-364242.

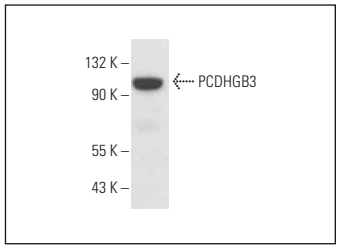
RECOMMENDED SUPPORT REAGENTS

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



PCDHGB3 (F-9): sc-515109. Western blot analysis of PCDHGB3 expression in human brain tissue extract.



PCDHGB3 (F-9): sc-515109. Western blot analysis of PCDHGB3 expression in mouse hypothalamus tissue extract.

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.