SANTA CRUZ BIOTECHNOLOGY, INC.

PCDHGA3 (G-5): sc-515152

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 (PCDH) gene clusters, designated α, β and γ, all of which contain multiple tandemly arranged genes. PCDHGA3 (protocadherin γ-A3) is a 932 amino acid that is one of 22 proteins encoded by the protocadherin γ cluster. The protocadherein γ cluster consists of three subfamilies (A, B and C) and PCDHGA3 is a member of the γ subfamily A. PCDHGA3 is a type I transmembrane receptor containing six cadherin motifs and is expressed in the central nervous system where it localizes to synapses. Members of the γ cluster of protocadherins are essential for neuronal survival. There are two isoforms of PCDHGA3 that are produced as a result of alternative splicing events.

REFERENCES

1. Kohmura, N., et al. 1998. Diversity revealed by a novel family of cadherins expressed in neurons at a synaptic complex. Neuron 20: 1137-1151.
2. Wu, Q., et al. 2001. Comparative DNA sequence analysis of mouse and human protocadherin gene clusters. Genome Res. 11: 389-404.
3. Tasic, B., et al. 2002. Promoter choice determines splice site selection in protocadherin α and γ pre-mRNA splicing. Mol. Cell 10: 21-33.
4. Wang, X., et al. 2002. γ protocadherins are required for survival of spinal interneurons. Neuron 36: 843-854.
5. Kirov, G., et al. 2003. Variation in the protocadherin γ A gene cluster. Genomics 82: 433-440.
6. Zou, C., et al. 2007. Sequence analysis and expression mapping of the rat clustered protocadherin gene repertoires. Neuroscience 144: 579-603.

CHROMOSOMAL LOCATION

Genetic locus: PCDHGA3 (human) mapping to 5q31.3; Pcdhga3 (mouse) mapping to 18 B3.

SOURCE

PCDHGA3 (G-5) is a mouse monoclonal antibody raised against amino acids 263-307 mapping within an internal region of PCDHGA3 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.

PCDHGA3 (G-5) is available conjugated to agarose (sc-515152 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515152 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515152 PE), fluorescein (sc-515152 FITC), Alexa Fluor® 488 (sc-515152 AF488), Alexa Fluor® 546 (sc-515152 AF546), Alexa Fluor® 594 (sc-515152 AF594) or Alexa Fluor® 647 (sc-515152 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515152 AF680) or Alexa Fluor® 790 (sc-515152 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PCDHGA3 (G-5) is recommended for detection of PCDHGA3 of mouse, rat and human 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 PCDHGA3 siRNA (h): sc-106758, Pcdhga3 siRNA (m): sc-152090, PCDHGA3 shRNA Plasmid (h): sc-106758-SH, Pcdhga3 shRNA Plasmid (m): sc-152090-SH, PCDHGA3 shRNA (h) Lentiviral Particles: sc-106758-V and Pcdhga3 shRNA (m) Lentiviral Particles: sc-152090-V.

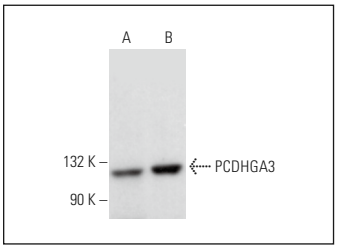
Molecular Weight of PCDHGA3: 101 kDa.

Positive Controls: mouse brain extract: sc-2253, human brain extract: sc-364375 or T98G cell lysate: sc-2294.

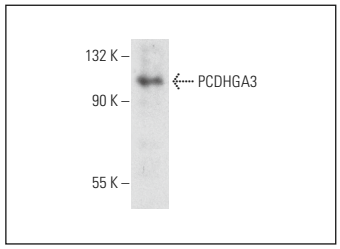
RECOMMENDED SUPPORT REAGENTS

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



PCDHGA3 (G-5): sc-515152. Western blot analysis of PCDHGA3 expression in mouse brain (**A**) and human brain (**B**) tissue extracts.



PCDHGA3 (G-5): sc-515152. Western blot analysis of PCDHGA3 expression in T98G whole cell lysate.

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.