SANTA CRUZ BIOTECHNOLOGY, INC.

PLEKHG5 (5A9): sc-517108

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PLEKHG5 (pleckstrin homology domain-containing family G member 5), also known as GEF720 (guanine nucleotide exchange factor 720) or DSMA4, is predominantly expressed in the peripheral nervous system and brain. PLEKHG5 localizes to the cytoplasm, however when cells are stimulated, PLEKHG5 is found near the perinuclear regions. PLEKHG5 contains the highly-conserved DH-PH module which is considered to be the signature motif of the Dbl family of guanine nucleotide exchange factors (GEFs). PLEKHG5 activates the NFκB signaling pathway and may be involved in the control of neuronal cell differentiation. It has been suggested that mutations in the PLEKHG5 gene may lead to autosomal recessive distal spinal muscular atrophy (DSMA). Four isoforms of PLEKHG5 exists due to alternative splicing events.

REFERENCES

1. Hoffman, G.R. and Cerione, R.A. 2002. Signaling to the Rho GTPases: networking with the DH domain. FEBS Lett. 513: 85-91.
2. Fuentes, E.J., et al. 2003. Critical role of the pleckstrin homology domain in Dbs signaling and growth regulation. J. Biol. Chem. 278: 21188-21196.
3. Joseph, R.E. and Norris, F.A. 2005. Substrate specificity and recognition is conferred by the pleckstrin homology domain of the Dbl family guanine nucleotide exchange factor P-Rex2. J. Biol. Chem. 280: 27508-27512.
4. Baumeister, M.A., et al. 2006. The Dbs PH domain contributes independently to membrane targeting and regulation of guanine nucleotide-exchange activity. Biochem. J. 400: 563-572.
5. Maystadt, I., et al. 2007. The nuclear factor κB-activator gene PLEKHG5 is mutated in a form of autosomal recessive lower motor neuron disease with childhood onset. Am. J. Hum. Genet. 81: 67-76.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611101. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Rapley, J., et al. 2008. Crucial structural role for the PH and C1 domains of the Vav1 exchange factor. EMBO Rep. 9: 655-661.

CHROMOSOMAL LOCATION

Genetic locus: PLEKHG5 (human) mapping to 1p36.31.

SOURCE

PLEKHG5 (5A9) is a mouse monoclonal antibody raised against amino acids 896-995 representing partial length PLEKHG5 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain 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

PLEKHG5 (5A9) is recommended for detection of PLEKHG5 of human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (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 PLEKHG5 siRNA (h): sc-88767, PLEKHG5 shRNA Plasmid (h): sc-88767-SH and PLEKHG5 shRNA (h) Lentiviral Particles: sc-88767-V.

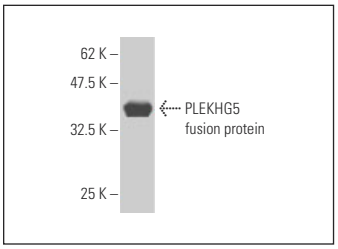
Molecular Weight (predicted) of PLEKHG5: 117 kDa.

Molecular Weight (observed) of PLEKHG5: 102 kDa.

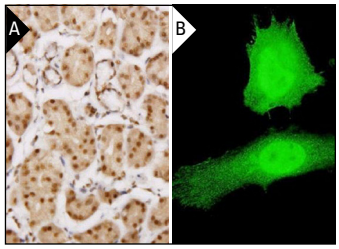
RECOMMENDED SUPPORT REAGENTS

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, 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 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



PLEKHG5 (5A9): sc-517108. Western blot analysis of human recombinant PLEKHG5 fusion protein.



PLEKHG5 (5A9); sc-517108. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing nuclear and cytoplasmic staining of glandular cells (**A**). Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (**B**).

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.