SANTA CRUZ BIOTECHNOLOGY, INC.

SH3TC2 (C-12): sc-136861

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SH3TC2 (SH3 domain and tetratricopeptide repeats 2) is a 1,288 amino acid protein that contains one SH3 domain and 8 TPR repeats. The SH3TC2 gene encodes a protein expressed in Schwann cells of peripheral nerves, and localized to the plasma membrane and to the perinuclear endocytic recycling compartment, suggesting a possible function in myelination and/or in regions of axoglial interactions. The SH3TC2 protein is expressed in adult heart, testis, spinal cord, and brain as well as in fetal brain and liver. Mild mononeuropathy of the median nerve (MNMN) is caused by heterozygous mutation in the SH3TC2 gene. Also, Charcot-Marie-Tooth disease type 4C (CMT4C) is a more severe neuropathy caused by homozygous or compound heterozygous mutation in the SH3TC2 gene. Existing as 4 alternatively spliced isoforms and containing 18 exons, the SH3TC2 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 5q32.

REFERENCES

1. Senderek, J., et al. 2003. Mutations in a gene encoding a novel SH3/TPR domain protein cause autosomal recessive Charcot-Marie-Tooth type 4C neuropathy. Am. J. Hum. Genet. 73: 1106-1119.
2. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 608206. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Azzedine, H., et al. 2006. Spine deformities in Charcot-Marie-Tooth 4C caused by SH3TC2 gene mutations. Neurology 67: 602-606.
4. Lupo, V., et al. 2009. Missense mutations in the SH3TC2 protein causing Charcot-Marie-Tooth disease type 4C affect its localization in the plasma membrane and endocytic pathway. Hum. Mol. Genet. 18: 4603-4614.
5. Houlden, H., et al. 2009. The phenotype of Charcot-Marie-Tooth disease type 4C due to SH3TC2 mutations and possible predisposition to an inflammatory neuropathy. Neuromuscul. Disord. 19: 264-269.
6. Arnaud, E., et al. 2009. SH3TC2/KIAA1985 protein is required for proper myelination and the integrity of the node of Ranvier in the peripheral nervous system. Proc. Natl. Acad. Sci. USA 106: 17528-17533.

CHROMOSOMAL LOCATION

Genetic locus: SH3TC2 (human) mapping to 5q32; Sh3tc2 (mouse) mapping to 18 E1.

SOURCE

SH3TC2 (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SH3TC2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-136861 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SH3TC2 (C-12) is recommended for detection of SH3TC2 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with SH3TC1.

SH3TC2 (C-12) is also recommended for detection of SH3TC2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for SH3TC2 siRNA (h): sc-91621, SH3TC2 siRNA (m): sc-153442, SH3TC2 shRNA Plasmid (h): sc-91621-SH, SH3TC2 shRNA Plasmid (m): sc-153442-SH, SH3TC2 shRNA (h) Lentiviral Particles: sc-91621-V and SH3TC2 shRNA (m) Lentiviral Particles: sc-153442-V.

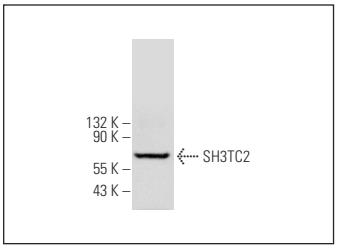
Molecular Weight of SH3TC2 isoforms 1/2/3/4: 145/17/15/66 kDa.

Positive Controls: rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



SH3TC2 (C-12): sc-136861. Western blot analysis of SH3TC2 expression in rat brain 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.