SANTA CRUZ BIOTECHNOLOGY, INC.

Cacna2d3 (S-14): sc-99324

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the calcium channel subunit α-2/δ family regulate many aspects of calcium channels, such as increasing functional channel density on the plasma membrane, regulating voltage dependent kinetics and gating. Cacna2d3 (voltage-dependent calcium channel subunit α-2/δ-3) is a 1,091 amino acid single-pass transmembrane protein that interacts with α-1, α-2 and β subunits in a 1:1:1:1 ratio to form a channel-mediating calcium influx. Cacna2d3 contains a VWFA domain that binds divalent metal cations, which are required to promote trafficking of the α-1 subunit to the plasma membrane. Cacna2d3 can be proteolytically cleaved into α-2-3 and δ-3 subunits that are linked by disulfide bonds. Loss of heterozygosity in the gene encoding Cacna2d3 has been discovered in conventional renal cell carcinomas.

REFERENCES

1. Wang, M., Offord, J., Oxender, D.L. and Su, T.Z. 1999. Structural requirement of the calcium-channel subunit α2δ for gabapentin binding. Biochem. J. 342: 313-320.
2. Hanke, S., Bugert, P., Chudek, J. and Kovacs, G. 2001. Cloning a calcium channel α2δ-3 subunit gene from a putative tumor suppressor gene region at chromosome 3p21.1 in conventional renal cell carcinoma. Gene 264: 69-75.
3. Gong, H.C., Hang, J., Kohler, W., Li, L. and Su, T.Z. 2001. Tissue-specific expression and gabapentin-binding properties of calcium channel α2δ subunit subtypes. J. Membr. Biol. 184: 35-43.
4. Qin, N., Yagel, S., Momplaisir, M.L., Codd, E.E. and D'Andrea, M.R. 2002. Molecular cloning and characterization of the human voltage-gated calcium channel α2δ-4 subunit. Mol. Pharmacol. 62: 485-496.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606399. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: CACNA2D3 (human) mapping to 3p21.1; Cacna2d3 (mouse) mapping to 14 A3.

SOURCE

Cacna2d3 (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of Cacna2d3 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-99324 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Cacna2d3 (S-14) is recommended for detection of Cacna2d3 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 family members Cacna2d1, Cacna2d2 or Cacna2d4.

Cacna2d3 (S-14) is also recommended for detection of Cacna2d3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Cacna2d3 siRNA (h): sc-78007, Cacna2d3 siRNA (m): sc-141969, Cacna2d3 shRNA Plasmid (h): sc-78007-SH, Cacna2d3 shRNA Plasmid (m): sc-141969-SH, Cacna2d3 shRNA (h) Lentiviral Particles: sc-78007-V and Cacna2d3 shRNA (m) Lentiviral Particles: sc-141969-V.

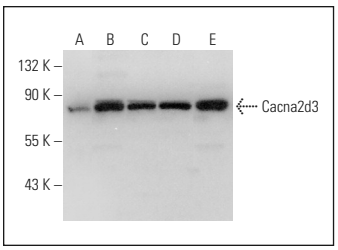
Molecular Weight of Cacna2d3 isoforms: 59/113/123 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, HeLa whole cell lysate: sc-2200 or mouse brain extract: sc-2253.

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



Cacna2d3 (S-14): sc-99324. Western blot analysis of Cacna2d3 expression in IMR-32 (**A**), HeLa (**B**), Jurkat (**C**) and K-562 (**D**) whole cell lysates and human tonsil tissue extract (**E**).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.