SANTA CRUZ BIOTECHNOLOGY, INC.

N-type Ca^{++} CP α1B (H-155): sc-20129

The Power to Question

BACKGROUND

N-type calcium channels are localized in high density presynaptic nerve terminals and are crucial elements in neuronal excitation-secretion coupling. Peripherally distributed N-type Ca^{++} channel plays a key role in cardiovascular regulation through autonomic nervous system. The high-voltage activated Ca^{2+} channels that have been characterized biochemically are complexes of a pore-forming α1 subunit, a transmembrane, disulfide-linked complex of α2 and δ subunits, an intracellular β subunit, and in some cases a transmembrane γ subunit. The α1 subunit conducts N-type Ca^{++} currents, which initiate rapid synaptic transmission. In addition to mediating Ca^{2+} entry to initiate transmitter release, N-type Ca^{++} channels are thought to interact directly with proteins of the synaptic vesicle docking and fusion machinery. The synaptic protein interaction sites in the intracellular loop II-III of subunit α1B of N-type Ca^{++} channels bind to syntaxin, SNAP-25 and synaptotagmin.

CHROMOSOMAL LOCATION

Genetic locus: CACNA1B (human) mapping to 9q34.3; Cacna1b (mouse) mapping to 2 A3.

SOURCE

N-type Ca^{++} CP α1B (H-155) is a rabbit polyclonal antibody raised against amino acids 1841-1995 mapping near the C-terminus of N-type Ca^{++} CP α1B 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.

STORAGE

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

APPLICATIONS

N-type Ca^{++} CP α1B (H-155) is recommended for detection of N-type calcium channel α1B 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).

N-type Ca^{++} CP α1B (H-155) is also recommended for detection of N-type calcium channel α1B in additional species, including equine, canine and bovine.

Suitable for use as control antibody for N-type Ca^{++} CP α1B siRNA (h): sc-42698, N-type Ca^{++} CP α1B siRNA (m): sc-42699, N-type Ca^{++} CP α1B shRNA Plasmid (h): sc-42698-SH, N-type Ca^{++} CP α1B shRNA Plasmid (m): sc-42699-SH, N-type Ca^{++} CP α1B shRNA (h) Lentiviral Particles: sc-42698-V and N-type Ca^{++} CP α1B shRNA (m) Lentiviral Particles: sc-42699-V.

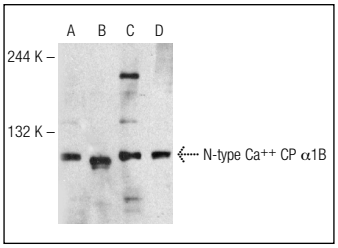
Molecular Weight of N-type Ca^{++} CP α1B: 250 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, U-87 MG cell lysate: sc-2411 or SK-N-SH cell lysate: sc-2410.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



N-type Ca^{++} CP α1B (H-155): sc-20129. Western blot analysis of N-type Ca^{++} CP α1B expression in SH-SY5Y (**A**), U-87 MG (**B**) and IMR-32 (**C**) whole cell lysates and rat brain tissue extract (**D**).

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.