SANTA CRUZ BIOTECHNOLOGY, INC.

L-type Ca^{++} CP α1S (C-17): sc-16257

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Voltage-dependent Ca^{++} channels mediate Ca^{++} entry into excitable cells in response to membrane depolarization, and they are involved in a variety of Ca^{++}-dependent processes, including muscle contraction, hormone or neurotransmitter release and gene expression. Calcium channels are highly diverse, multimeric complexes composed of an α-1 subunit, an intracellular β-subunit, a disulfide linked α-2/δ subunit and a transmembrane γ-subunit. Ca^{++} currents are characterized on the basis of their biophysical and pharmacologic properties and include L-, N-, T-, P-, Q-, and R- types. L-type Ca^{++} currents initiate muscle contraction, endocrine secretion, and gene transcription, and can be regulated through second-messenger activated protein phosphorylation pathways. L-type calcium channels may form macromolecular signaling complexes with G protein-coupled receptors, thereby enhancing the selectivity of regulating specific targets. Calcium channels containing the α-1S subunit play an important role in excitation-contraction coupling in skeletal muscle.

REFERENCES

1. Perez-Reyes, E., et al. 1995. Molecular biology of calcium channels. Kidney Int. 48: 1111-1124.
2. Randall, A.D. 1998. The molecular basis of voltage-gated Ca^{2+} channel diversity: is it time for T? J. Membr. Biol. 161: 207-213.
3. Catterall, W.A. 2000. Structure and regulation of voltage-gated Ca^{2+} channels. Annu. Rev. Cell Dev. Biol. 16: 521-555.
4. Davare, M.A., et al. 2001. A β2 adrenergic receptor signaling complex assembled with the Ca^{2+} channel Cav1.2. Science 293: 98-101.
5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 601011. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: CACNA1S (human) mapping to 1q32.1; Cacna1s (mouse) mapping to 1 E4.

SOURCE

L-type Ca^{++} CP α1S (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of L-type Ca^{++} CP α1S 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-16257 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

L-type Ca^{++} CP α1S (C-17) is recommended for detection of L-type calcium channel α1S of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

L-type Ca^{++} CP α1S (C-17) is also recommended for detection of L-type calcium channel α1S in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for L-type Ca^{++} CP α1S siRNA (h): sc-35772, L-type Ca^{++} CP α1S siRNA (m): sc-35773, L-type Ca^{++} CP α1S shRNA Plasmid (h): sc-35772-SH, L-type Ca^{++} CP α1S shRNA Plasmid (m): sc-35773-SH, L-type Ca^{++} CP α1S shRNA (h) Lentiviral Particles: sc-35772-V and L-type Ca^{++} CP α1S shRNA (m) Lentiviral Particles: sc-35773-V.

Molecular Weight of L-type Ca^{++} CP α1S: 170 kDa.

Positive Controls: Mouse kidney extract: sc-2255 or Sol8 cell lysate: sc-2249.

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) 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.

SELECT PRODUCT CITATIONS

1. Takemura, H., et al. 2005. Subtype switching of L-Type Ca^{2+} channel from Cav1.3 to Cav1.2 in embryonic murine ventricle. Circ. J. 69: 1405-1411.

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.