SANTA CRUZ BIOTECHNOLOGY, INC.

L-type Ca^{++} CP α1C (A-20): sc-16230

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.

CHROMOSOMAL LOCATION

Genetic locus: CACNA1C (human) mapping to 12p13.33; Cacna1c (mouse) mapping to 6 F1.

SOURCE

L-type Ca^{++} CP α1C (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of L-type Ca^{++} CP α1C 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-16230 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 α1C (A-20) is recommended for detection of L-type calcium channel α1C 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).

Suitable for use as control antibody for L-type Ca^{++} CP α1C siRNA (h): sc-42688, L-type Ca^{++} CP α1C siRNA (m): sc-42689, L-type Ca^{++} CP α1C shRNA Plasmid (h): sc-42688-SH, L-type Ca^{++} CP α1C shRNA Plasmid (m): sc-42689-SH, L-type Ca^{++} CP α1C shRNA (h) Lentiviral Particles: sc-42688-V and L-type Ca^{++} CP α1C shRNA (m) Lentiviral Particles: sc-42689-V.

Molecular Weight of L-type Ca^{++} CP α1C long form: 190 kDa.

Molecular Weight of L-type Ca^{++} CP α1C short form: 164 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263.

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. Li, X., et al. 2005. The β-adrenergic blocker carvedilol restores L-type calcium current in a myocardial infarction model of rabbit. Chin. Med. J. 118: 377-382.
2. Tishkoff, D.X., et al. 2008. Functional vitamin D receptor (VDR) in the t-tubules of cardiac myocytes: VDR knockout cardiomyocyte contractility. Endocrinology 149: 558-564.
3. Marques-da-Silva, D., et al. 2010. L-type calcium channels and cytochrome β5 reductase are components of protein complexes tightly associated with lipid rafts microdomains of the neuronal plasma membrane. J. Proteomics 73: 1502-1510.
4. Kucherenko, Y.V., et al. 2010. Increased cation conductance in human erythrocytes artificially aged by glycation. J. Membr. Biol. 235: 177-189.
5. Cheng, J., et al. 2012. CaMKII inhibition in heart failure, beneficial, harmful, or both. Am. J. Physiol. Heart Circ. Physiol. 302: H1454-H1465.
6. Burmeister, D., et al. 2012. Impact of partial urethral obstruction on bladder function: time-dependent changes and functional correlates of altered expression of Ca^{2+} signaling regulators. Am. J. Physiol. Renal Physiol. 302: F1517-F1528.

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.