

L-type Ca⁺⁺ CP α1C (D-6): sc-398433

BACKGROUND

Voltage-dependent Ca²⁺ channels mediate Ca²⁺ entry into excitable cells in response to membrane depolarization, and they are involved in a variety of Ca²⁺-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/β subunit and a transmembrane γ-subunit. Ca²⁺ currents are characterized on the basis of their biophysical and pharmacologic properties and include L-, N-, T-, P-, Q-, and R- types. L-type Ca²⁺ 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.

SOURCE

L-type Ca⁺⁺ CP α1C (D-6) is a mouse monoclonal antibody raised against amino acids 1721-2000 mapping within an internal region of L-type Ca⁺⁺ CP α1C of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

L-type Ca⁺⁺ CP α1C (D-6) is available conjugated to agarose (sc-398433 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398433 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398433 PE), fluorescein (sc-398433 FITC), Alexa Fluor® 488 (sc-398433 AF488), Alexa Fluor® 546 (sc-398433 AF546), Alexa Fluor® 594 (sc-398433 AF594) or Alexa Fluor® 647 (sc-398433 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398433 AF680) or Alexa Fluor® 790 (sc-398433 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

L-type Ca⁺⁺ CP α1C (D-6) is recommended for detection of L-type Ca⁺⁺ CP α1C of human origin by Western Blotting (starting dilution 1:100, 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).

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

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

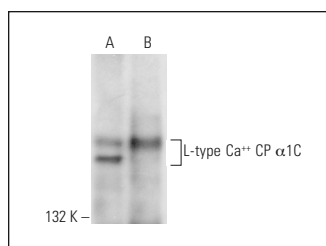
Molecular Weight of L-type Ca⁺⁺ CP α1C long form: 190 kDa.

Positive Controls: human heart extract: sc-363763 or CCD-1064Sk cell lysate: sc-2263.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



L-type Ca⁺⁺ CP α1C (D-6): sc-398433. Western blot analysis of L-type Ca⁺⁺ CP α1C expression in CCD-1064Sk whole cell lysate (A) and human heart tissue extract (B).

SELECT PRODUCT CITATIONS

- Huang, J.J., et al. 2017. Functional expression of the Ca²⁺ signaling machinery in human embryonic stem cells. *Acta Pharmacol. Sin.* 38: 1663-1672.
- Chaigne, S., et al. 2021. Transient receptor potential vanilloid 4 channel participates in mouse ventricular electrical activity. *Am. J. Physiol. Heart Circ. Physiol.* 320: H1156-H1169.
- Pathe-Neuschäfer-Rube, A., et al. 2021. Cell-based reporter release assay to determine the activity of calcium-dependent neurotoxins and neuroactive pharmaceuticals. *Toxins* 13: 247.

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.

PROTOCOLS

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

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