

L-type Ca⁺⁺ CP α 1D (F-20): sc-32070

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/ δ 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 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: CACNA1D (human) mapping to 3p21.1; Cacna1d (mouse) mapping to 14 B.

SOURCE

L-type Ca⁺⁺ CP α 1D (F-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of L-type Ca⁺⁺ CP α 1D of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-32070 P, (100 μ g 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

L-type Ca⁺⁺ CP α 1D (F-20) is recommended for detection of L-type calcium channel α 1D and, to a lesser extent, L-type calcium channel α 1F of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with L-type CP α 1C in mouse/rat.

L-type Ca⁺⁺ CP α 1D (F-20) is also recommended for detection of L-type calcium channel α 1D and, to a lesser extent, L-type calcium channel α 1F in additional species, including equine, canine, bovine and porcine.

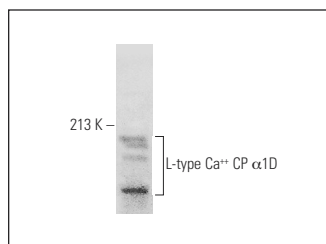
Molecular Weight of L-type Ca⁺⁺ CP α 1D: 199 kDa.

Positive Controls: L6 whole cell lysate: sc-364196, C6 whole cell lysate: sc-364373 or IMR-32 cell lysate: sc-2409.

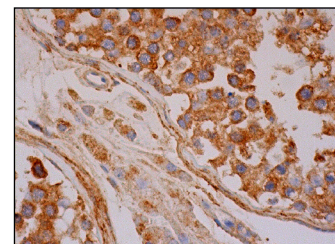
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



L-type Ca⁺⁺ CP α 1D (F-20): sc-32070. Western blot analysis of L-type Ca⁺⁺ CP α 1D expression in IMR-32 whole cell lysate.



L-type Ca⁺⁺ CP α 1D (F-20): sc-32070. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and membrane staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells.

SELECT PRODUCT CITATIONS

1. Omilusik, K., et al. 2011. The Ca_v1.4 calcium channel is a critical regulator of T cell receptor signaling and naive T cell homeostasis. *Immunity* 35: 349-360.

STORAGE

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

PROTOCOLS

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

MONOS
Satisfaction
Guaranteed

Try **L-type Ca⁺⁺ CP α 1D (G-9): sc-515643**, our highly recommended monoclonal alternative to L-type Ca⁺⁺ CP α 1D (F-20).