SANTA CRUZ BIOTECHNOLOGY, INC.

L-type Ca^{++} CP α1D (H-240): sc-25687

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Voltage-dependent Ca^{2+} channels mediate Ca^{2+} entry into excitable cells in response to membrane depolarization, and they are involved in a variety of Ca^{2+}-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^{2+} 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 α1D (H-240) is a rabbit polyclonal antibody raised against amino acids 1661-1900 mapping within an internal region of L-type Ca^{++} CP α1D 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.

RESEARCH USE

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

APPLICATIONS

L-type Ca^{++} CP α1D (H-240) is recommended for detection of L-type Ca^{++} CP α1D 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), 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).

L-type Ca^{++} CP α1D (H-240) is also recommended for detection of L-type Ca^{++} CP α1D in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for L-type Ca^{++} CP α1D siRNA (h): sc-42690, L-type Ca^{++} CP α1D siRNA (m): sc-42691, L-type Ca^{++} CP α1D shRNA Plasmid (h): sc-42690-SH, L-type Ca^{++} CP α1D shRNA Plasmid (m): sc-42691-SH, L-type Ca^{++} CP α1D shRNA (h) Lentiviral Particles: sc-42690-V and L-type Ca^{++} CP α1D shRNA (m) Lentiviral Particles: sc-42691-V.

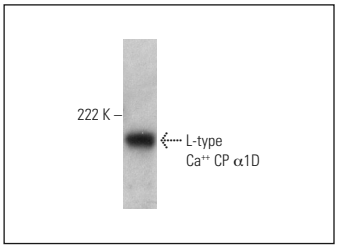
Molecular Weight of L-type Ca^{++} CP α1D: 199 kDa.

Positive Controls: L6 whole cell lysate: sc-364196, IMR-32 cell lysate: sc-2409 or SK-N-SH cell lysate: sc-2410.

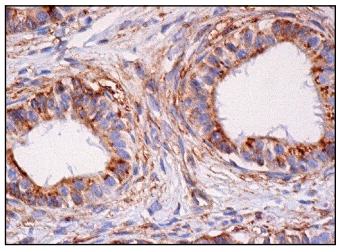
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



L-type Ca^{++} CP α1D (H-240): sc-25687. Western blot analysis of L-type Ca^{++} CP α1D expression in SK-BR-3 whole cell lysate.



L-type Ca^{++} CP α1D (H-240): sc-25687. Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Chen, R., et al. 2013. Cav1.3 channel α1D protein is overexpressed and modulates androgen receptor transactivation in prostate cancers. Urol. Oncol. 32: 524-536.
2. Fernández-Morales, J.C., et al. 2014. Hypoxia-elicited catecholamine release is controlled by L-type as well as N/PQ types of calcium channels in rat embryo chromaffin cells. Am. J. Physiol., Cell Physiol. 307: C455-C465.
3. Park, H.W., et al. 2014. Pharmacological correction of obesity-induced autophagy arrest using calcium channel blockers. Nat. Commun. 5: 4834.

STORAGE

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