SANTA CRUZ BIOTECHNOLOGY, INC.

L-type Ca^{++} CP α1F (1H6): sc-517005

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^{2+} 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.

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 $Ca_v1.2$. Science 293: 98-101.
5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 601011. Worle Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: CACNA1F (human) mapping to Xp11.23.

SOURCE

L-type Ca^{++} CP α1F (1H6) is a mouse monoclonal antibody raised against amino acids 1878-1977 representing partial length L-type Ca^{++} CP α1F of human origin.

PRODUCT

Each vial contains 100 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 for detailed protocols and support products.

APPLICATIONS

L-type Ca^{++} CP α1F (1H6) is recommended for detection of L-type Ca^{++} CP α1F of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

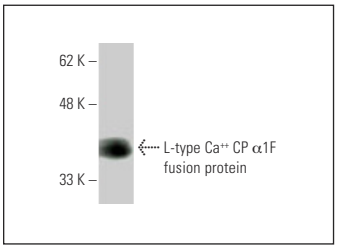
Suitable for use as control antibody for L-type Ca^{++} CP α1F siRNA (h): sc-42692, L-type Ca^{++} CP α1F shRNA Plasmid (h): sc-42692-SH and L-type Ca^{++} CP α1F shRNA (h) Lentiviral Particles: sc-42692-V.

Molecular Weight of L-type Ca^{++} CP α1F: 239 kDa.

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).

DATA



L-type Ca^{++} CP α1F (1H6): sc-517005. Western blot analysis of human recombinant L-type Ca^{++} CP α1F fusion protein.

SELECT PRODUCT CITATIONS

1. 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.

RESEARCH USE

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