SANTA CRUZ BIOTECHNOLOGY, INC.

L-type Ca^{++} CP γ8 (A-8): sc-514421

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. Gregg, R.G., et al. 1993. Assignment of the human gene for the α1 subunit of the skeletal muscle DHP-sensitive Ca^{2+} channel (CACNL1A3) to chromosome 1q31-q32. Genomics 15: 107-112.
2. Perez-Reyes, E. and Schneider, T. 1995. Molecular biology of calcium channels. Kidney Int. 48: 1111-1124.
3. 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.
4. Catterall, W.A. 2000. Structure and regulation of voltage-gated Ca^{2+} channels. Annu. Rev. Cell Dev. Biol. 16: 521-555.
5. Davare, M.A., et al. 2001. A β_2 adrenergic receptor signaling complex assembled with the Ca^{2+} channel $Ca_v1.2$. Science 293: 98-101.

CHROMOSOMAL LOCATION

Genetic locus: CACNG8 (human) mapping to 19q13.42; Cacng8 (mouse) mapping to 7 A1.

SOURCE

L-type Ca^{++} CP γ8 (A-8) is a mouse monoclonal antibody raised against amino acids 230-270 mapping within an internal region of L-type Ca^{++} CP γ8 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

L-type Ca^{++} CP γ8 (A-8) is available conjugated to agarose (sc-514421 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514421 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514421 PE), fluorescein (sc-514421 FITC), Alexa Fluor® 488 (sc-514421 AF488), Alexa Fluor® 546 (sc-514421 AF546), Alexa Fluor® 594 (sc-514421 AF594) or Alexa Fluor® 647 (sc-514421 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514421 AF680) or Alexa Fluor® 790 (sc-514421 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

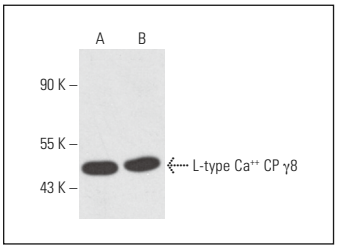
APPLICATIONS

L-type Ca^{++} CP γ8 (A-8) is recommended for detection of L-type Ca^{++} CP γ8 of mouse, rat and 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 γ8 siRNA (h): sc-97586, L-type Ca^{++} CP γ8 siRNA (m): sc-146621, L-type Ca^{++} CP γ8 siRNA (r): sc-270462, L-type Ca^{++} CP γ8 shRNA Plasmid (h): sc-97586-SH, L-type Ca^{++} CP γ8 shRNA Plasmid (m): sc-146621-SH, L-type Ca^{++} CP γ8 shRNA Plasmid (r): sc-270462-SH, L-type Ca^{++} CP γ8 shRNA (h) Lentiviral Particles: sc-97586-V, L-type Ca^{++} CP γ8 shRNA (m) Lentiviral Particles: sc-146621-V and L-type Ca^{++} CP γ8 shRNA (r) Lentiviral Particles: sc-270462-V.

Positive Controls: human skeletal muscle extract: sc-363776 or rat skeletal muscle extract: sc-364810.

DATA



L-type Ca^{++} CP γ8 (A-8): sc-514421. Western blot analysis of L-type Ca^{++} CP γ8 expression in human skeletal muscle (**A**) and rat skeletal muscle (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Xue, S.G., et al 2023. Enhanced TARP-γ8-PSD-95 coupling in excitatory neurons contributes to the rapid antidepressant-like action of ketamine in male mice. Nat. Commun. 14: 7971.

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.