

L-type Ca⁺⁺ CP γ 2 (D-7): sc-376281

BACKGROUND

Excitable cells in response to membrane depolarization 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. L-type Ca²⁺ currents initiate muscle contraction, endocrine secretion and gene transcription, and are 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. L-type calcium channels in the brain specifically express the γ 2 subunit along with γ 3 and γ 4 subunits. The γ 2 subunit (also known as stargazin) is abundant in synaptic plasma membranes where it regulates synaptic targeting of AMP receptors in granule cells.

REFERENCES

- Perez-Reyes, E., et al. 1995. Molecular biology of calcium channels. *Kidney Int.* 48: 1111-1124.
- Randall, A.D. 1998. The molecular basis of voltage-gated Ca²⁺ channel diversity: is it time for T? *J. Membr. Biol.* 161: 207-213.
- Campbell, K.P., et al. 1998. The mouse stargazer gene encodes a neuronal Ca²⁺-channel γ subunit. *Nat. Genet.* 19: 340-347.
- Catterall, W.A. 2000. Structure and regulation of voltage-gated Ca²⁺ channels. *Annu. Rev. Cell Dev. Biol.* 16: 521-555.
- Chen, L., et al. 2000. Stargazing regulates synaptic targeting of AMPA receptors by two distinct mechanisms. *Nature* 408: 936-943.
- Davare, M.A., et al. 2001. A β 2 adrenergic receptor signaling complex assembled with the Ca²⁺ channel Ca_v1.2. *Science* 293: 98-101.

CHROMOSOMAL LOCATION

Genetic locus: CACNG2 (human) mapping to 22q12.3.

SOURCE

L-type Ca⁺⁺ CP γ 2 (D-7) is a mouse monoclonal antibody raised against amino acids 244-323 mapping at the C-terminus of L-type Ca⁺⁺ CP γ 2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

L-type Ca⁺⁺ CP γ 2 (D-7) is available conjugated to agarose (sc-376281 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376281 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376281 PE), fluorescein (sc-376281 FITC), Alexa Fluor[®] 488 (sc-376281 AF488), Alexa Fluor[®] 546 (sc-376281 AF546), Alexa Fluor[®] 594 (sc-376281 AF594) or Alexa Fluor[®] 647 (sc-376281 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376281 AF680) or Alexa Fluor[®] 790 (sc-376281 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

L-type Ca⁺⁺ CP γ 2 (D-7) is recommended for detection of L-type Ca⁺⁺ CP γ 2 of human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

L-type Ca⁺⁺ CP γ 2 (D-7) is also recommended for detection of L-type Ca⁺⁺ CP γ 2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for L-type Ca⁺⁺ CP γ 2 siRNA (h): sc-42696, L-type Ca⁺⁺ CP γ 2 shRNA Plasmid (h): sc-42696-SH and L-type Ca⁺⁺ CP γ 2 shRNA (h) Lentiviral Particles: sc-42696-V.

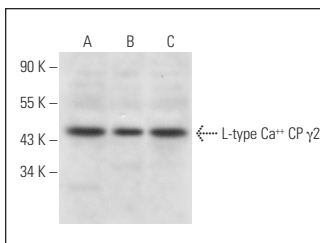
Molecular Weight of L-type Ca⁺⁺ CP γ 2: 36 kDa.

Positive Controls: L-type Ca⁺⁺ CP γ 2 (h2): 293T Lysate: sc-128975, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

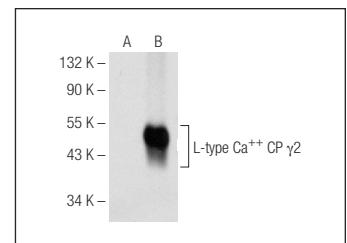
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 γ 2 (D-7): sc-376281. Western blot analysis of L-type Ca⁺⁺ CP γ 2 expression in Jurkat (A), K-562 (B) and SHP-77 (C) whole cell lysates.



L-type Ca⁺⁺ CP γ 2 (D-7): sc-376281. Western blot analysis of L-type Ca⁺⁺ CP γ 2 expression in non-transfected: sc-117752 (A) and human L-type Ca⁺⁺ CP γ 2 transfected: sc-128975 (B) 293T whole cell lysates.

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.