

L-type Ca⁺⁺ CP γ 2 (h2): 293T Lysate: sc-128975

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

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 Ca²⁺ channel diversity: is it time for T? *J. Membr. Biol.* 161: 207-213.
3. Campbell, K.P., et al. 1998. The mouse stargazer gene encodes a neuronal Ca²⁺-channel γ subunit. *Nat. Genet.* 19: 340-347.
4. Catterall, W.A. 2000. Structure and regulation of voltage-gated Ca²⁺ channels. *Annu. Rev. Cell Dev. Biol.* 16: 521-555.
5. Chen, L., et al. 2000. Stargazing regulates synaptic targeting of AMPA receptors by two distinct mechanisms. *Nature* 408: 936-943.
6. 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.

PRODUCT

L-type Ca⁺⁺ CP γ 2 (h2): 293T Lysate represents a lysate of human L-type Ca⁺⁺ CP γ 2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

L-type Ca⁺⁺ CP γ 2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive L-type Ca⁺⁺ CP γ 2 antibodies. Recommended use: 10-20 μ l per lane.

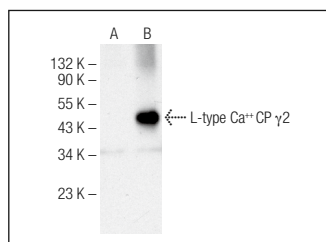
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

L-type Ca⁺⁺ CP γ 2 (B-5): sc-374123 is recommended as a positive control antibody for Western Blot analysis of enhanced human L-type Ca⁺⁺ CP γ 2 expression in L-type Ca⁺⁺ CP γ 2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-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.

DATA



L-type Ca⁺⁺ CP γ 2 (B-5): sc-374123. 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 -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.