

# L-type Ca<sup>++</sup> CP β1A (A-18): sc-15970

## BACKGROUND

Voltage-dependent Ca<sup>+</sup> channels mediate Ca<sup>+</sup> entry into excitable cells in response to membrane depolarization, and they are involved in a variety of Ca<sup>+</sup>-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<sup>+</sup> 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<sup>+</sup> 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. and Schneider, T. 1995. Molecular biology of calcium channels. *Kidney Int.* 48: 1111-1124.
2. Randall, A.D. 1998. The molecular basis of voltage-gated Ca<sup>2+</sup> 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<sup>2+</sup> channels. *Annu. Rev. Cell Dev. Biol.* 16: 521-555.
4. Davare, M.A., Avdonin, V., Hall, D.D., Peden, E.M., Burette, A., Weinberg, R.J., Horne, M.C., Hoshi, T. and Hell, J.W. 2001. A β2-Adrenergic receptor signaling complex assembled with the Ca<sup>2+</sup> channel Cav1.2. *Science* 293: 98-101.
5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 601011. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: CACNB1 (human) mapping to 17q12; Cacnb1 (mouse) mapping to 11 D.

## SOURCE

L-type Ca<sup>++</sup> CP β1A (A-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of L-type Ca<sup>++</sup> CP β1A 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.

Blocking peptide available for competition studies, sc-15970 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

L-type Ca<sup>++</sup> CP β1A (A-18) is recommended for detection of L-type calcium channel β1 isoform A (also designated isoform 2) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with isoform 1B (also designated isoform 1 or βA) or isoform 1C (also designated isoform 3 or βB).

L-type Ca<sup>++</sup> CP β1A (A-18) is also recommended for detection of L-type calcium channel β1 isoform A (also designated isoform 2) in additional species, including equine, bovine and porcine.

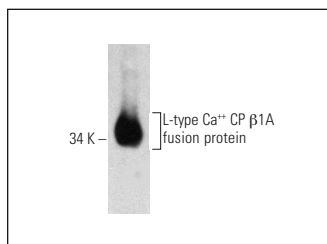
Molecular Weight of L-type Ca<sup>++</sup> CP β1A: 66 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, SK-N-SH cell lysate: sc-2410 or L8 cell lysate: sc-3807.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



L-type Ca<sup>++</sup> CP β1A (A-18): sc-15970. Western blot analysis of human recombinant L-type Ca<sup>++</sup> CP β1A fusion protein.

## RESEARCH USE

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

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Try **L-type Ca<sup>++</sup> CP β1 (Y-2D68): sc-134377**, our highly recommended monoclonal alternative to L-type Ca<sup>++</sup> CP β1A (A-18).