

# L-type Ca<sup>++</sup> CP γ2 (B-5): sc-374123

## BACKGROUND

Excitable cells in response to membrane depolarization are involved in a variety of Ca<sup>2+</sup>-dependent processes, including muscle contraction, hormone or neurotransmitter release and gene expression. Calcium channels are highly diverse, multimeric complexes composed of an α1 subunit, an intracellular β subunit, a disulfide linked α2/δ subunit and a transmembrane γ subunit. L-type Ca<sup>++</sup> 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 γ2 subunit along with γ3 and γ4 subunits. The γ2 subunit (also known as stargazin) is abundant in synaptic plasma membranes where it regulates synaptic targeting of AMP receptors in granule cells.

## CHROMOSOMAL LOCATION

Genetic locus: CACNG2 (human) mapping to 22q12.3; Cacng2 (mouse) mapping to 15 E1.

## SOURCE

L-type Ca<sup>++</sup> CP γ2 (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 263-291 within an internal region of L-type Ca<sup>++</sup> CP γ2 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374123 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

L-type Ca<sup>++</sup> CP γ2 (B-5) is recommended for detection of L-type Ca<sup>++</sup> CP γ2 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).

L-type Ca<sup>++</sup> CP γ2 (B-5) is also recommended for detection of L-type Ca<sup>++</sup> CP γ2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for L-type Ca<sup>++</sup> CP γ2 siRNA (h): sc-42696, L-type Ca<sup>++</sup> CP γ2 siRNA (m): sc-42697, L-type Ca<sup>++</sup> CP γ2 shRNA Plasmid (h): sc-42696-SH, L-type Ca<sup>++</sup> CP γ2 shRNA Plasmid (m): sc-42697-SH, L-type Ca<sup>++</sup> CP γ2 shRNA (h) Lentiviral Particles: sc-42696-V and L-type Ca<sup>++</sup> CP γ2 shRNA (m) Lentiviral Particles: sc-42697-V.

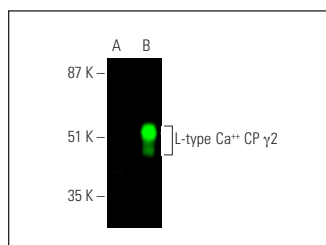
Molecular Weight of L-type Ca<sup>++</sup> CP γ2: 36 kDa.

Positive Controls: L-type Ca<sup>++</sup> CP γ2 (h2): 293T Lysate: sc-128975.

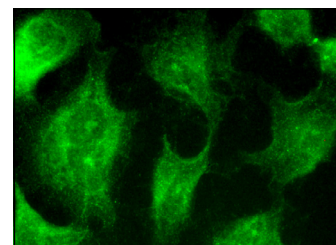
## RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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<sup>++</sup> CP γ2 (B-5): sc-374123. Near-infrared western blot analysis of L-type Ca<sup>++</sup> CP γ2 expression in non-transfected: sc-117752 (A) and human L-type Ca<sup>++</sup> CP γ2 transfected: sc-128975 (B) whole cell lysates. Detection reagent used: m-IgGκ BP-CFL 680: sc-516194.



L-type Ca<sup>++</sup> CP γ2 (B-5): sc-374123. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## SELECT PRODUCT CITATIONS

1. Seneviratne, U., et al. 2016. S-nitrosation of proteins relevant to Alzheimer's disease during early stages of neurodegeneration. *Proc. Natl. Acad. Sci. USA* 113: 4152-4157.

## 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](http://www.scbt.com) for detailed protocols and support products.