

L-type Ca⁺⁺ CP γ 4 (L-23): sc-133718

BACKGROUND

L-type (long lasting current) voltage-dependent calcium channels are composed of 4 subunits, designated α 1, β , γ and α 2 δ , all of which work together to mediate neurotransmitter release. L-type Ca⁺⁺ CP γ 4, also known as CACNG4, is a 327 amino acid multi-pass membrane protein that exists as a component of the γ subunit and is thought to specifically stabilize calcium channels in a closed (inactive) state. The gene encoding L-type Ca⁺⁺ CP γ 4 maps to a cluster of γ subunit-encoding genes on human chromosome 17. Chromosome 17 comprises over 2.5% of the human genome and encodes over 1,200 genes, some of which are involved in tumor suppression and in the pathogenesis of Li-Fraumeni syndrome, early onset breast cancer and a predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

1. Powers, P.A., Liu, S., Hogan, K. and Gregg, R.G. 1993. Molecular characterization of the gene encoding the γ subunit of the human skeletal muscle 1,4-dihydropyridine-sensitive Ca²⁺ channel (CACNLG), cDNA sequence, gene structure, and chromosomal location. *J. Biol. Chem.* 268: 9275-9279.
2. Diriong, S., Lory, P., Williams, M.E., Ellis, S.B., Harpold, M.M. and Taviaux, S. 1995. Chromosomal localization of the human genes for α 1A, α 1B, and α 1E voltage-dependent Ca²⁺ channel subunits. *Genomics* 30: 605-609.
3. Burgess, D.L., Davis, C.F., Gefrides, L.A. and Noebels, J.L. 1999. Identification of three novel Ca²⁺ channel γ subunit genes reveals molecular diversification by tandem and chromosome duplication. *Genome Res.* 9: 1204-1213.
4. Chu, P.J., Robertson, H.M. and Best, P.M. 2001. Calcium channel γ subunits provide insights into the evolution of this gene family. *Gene* 280: 37-48.
5. Burgess, D.L., Gefrides, L.A., Foreman, P.J. and Noebels, J.L. 2001. A cluster of three novel Ca²⁺ channel γ subunit genes on chromosome 19q13.4: evolution and expression profile of the γ subunit gene family. *Genomics* 71: 339-350.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 616404. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: CACNG4 (human) mapping to 17q24.2; Cacng4 (mouse) mapping to 11 E1.

SOURCE

L-type Ca⁺⁺ CP γ 4 (L-23) is a Protein A purified rabbit polyclonal antibody raised against synthetic L-type Ca⁺⁺ CP γ 4 peptide of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

L-type Ca⁺⁺ CP γ 4 (L-23) is recommended for detection of L-type Ca⁺⁺ CP γ 4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] 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 γ 4 siRNA (h): sc-94093, L-type Ca⁺⁺ CP γ 4 siRNA (m): sc-146618, L-type Ca⁺⁺ CP γ 4 shRNA Plasmid (h): sc-94093-SH, L-type Ca⁺⁺ CP γ 4 shRNA Plasmid (m): sc-146618-SH, L-type Ca⁺⁺ CP γ 4 shRNA (h) Lentiviral Particles: sc-94093-V and L-type Ca⁺⁺ CP γ 4 shRNA (m) Lentiviral Particles: sc-146618-V.

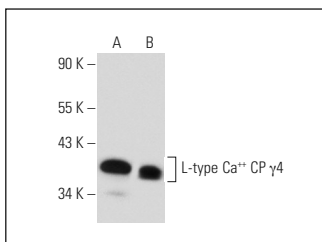
Molecular Weight of L-type Ca⁺⁺ CP γ 4: 37 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or C2C12 whole cell lysates: sc-364188.

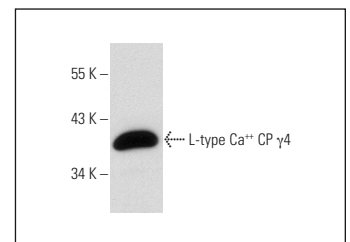
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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).

DATA



L-type Ca⁺⁺ CP γ 4 (L-23): sc-133718. Western blot analysis of L-type Ca⁺⁺ CP γ 4 expression in Jurkat (A) and C2C12 (B) whole cell lysates.



L-type Ca⁺⁺ CP γ 4 (L-23): sc-133718. Western blot analysis of L-type Ca⁺⁺ CP γ 4 expression in 293T whole cell lysate.

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 or our catalog for detailed protocols and support products.