

L-type Ca⁺⁺ CP γ 6 (L-24): sc-133719

BACKGROUND

Voltage-dependent calcium channels are important for the release of neurotransmitters in neurons. L-type (long lasting current) voltage-dependent calcium channels are composed of four subunits: an α 1 subunit, a β subunit, a γ subunit, and an α 2 δ subunit. The γ subunit is encoded by eight genes, γ 1- γ 8, and functions by influencing the properties of calcium current. L-type Ca⁺⁺ CP γ 6 (voltage-dependent calcium channel subunit γ 6), also called CACNG6, belongs to the CACNG subfamily of the PMP-22/EMP/MP20 family. It is a membrane protein with four transmembrane domains, an N-linked glycosylation site in the first extracellular loop and cytoplasmic N- and C-termini. CACNG is expressed in a variety of tissues including fetal and adult brain. L-type Ca⁺⁺ CP γ 6 is most closely related to family member CACNG1. Both subunits lack the PSD-95/DLG/ZO-1(PDZ) binding motif. L-type Ca⁺⁺ CP γ 6 may function to stabilize the calcium channel in an inactivated state.

REFERENCES

- Burgess, D.L., et al. 2000. Identification of three novel Ca²⁺ channel γ subunit genes reveals molecular diversification by tandem and chromosome duplication. *Genome Res.* 9: 1204-1213.
- Chu, P.J., et al. 2001. Calcium channel γ subunits provide insights into the evolution of this gene family. *Gene* 280: 37-48.
- Burgess, D.L., et al. 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.
- Black, J.L., 3rd., 2004. The voltage-gated calcium channel γ subunits: a review of the literature. *J. Bioenerg. Biomembr.* 35: 649-660.
- Hansen, J.P., et al. 2004. Calcium channel γ 6 subunits are unique modulators of low voltage-activated (Cav3.1) calcium current. *J. Mol. Cell. Cardiol.* 37: 1147-1158.
- Letts, V.A., et al. 2005. A targeted mutation in *Cacng4* exacerbates spike-wave seizures in stargazer (*Cacng2*) mice. *Proc. Natl. Acad. Sci. USA* 102: 2123-2128.
- Price, M.G., et al. 2005. The α -amino-3-hydroxyl-5-methyl-4-isoxazolepropionate receptor trafficking regulator "stargazin" is related to the claudin family of proteins by its ability to mediate cell-cell adhesion. *J. Biol. Chem.* 280: 19711-19720.

CHROMOSOMAL LOCATION

Genetic locus: CACNG6 (human) mapping to 19q13.42.

SOURCE

L-type Ca⁺⁺ CP γ 6 (L-24) is a Protein A purified rabbit polyclonal antibody raised against synthetic L-type Ca⁺⁺ CP γ 6 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 6 (L-24) is recommended for detection of L-type Ca⁺⁺ CP γ 6 of 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 6 siRNA (h): sc-62050, L-type Ca⁺⁺ CP γ 6 shRNA Plasmid (h): sc-62050-SH and L-type Ca⁺⁺ CP γ 6 shRNA (h) Lentiviral Particles: sc-62050-V.

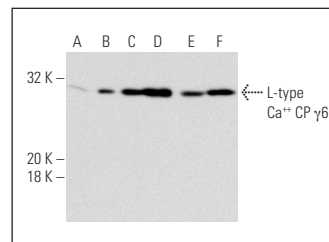
Molecular Weight of L-type Ca⁺⁺ CP γ 6: 28 kDa.

Positive Controls: H4 cell lysate: sc-2408, L-type Ca⁺⁺ CP γ 6 (h): 293T Lysate: sc-176120 or Y79 cell lysate: sc-2240.

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 6 (L-24): sc-133719. Western blot analysis of L-type Ca⁺⁺ CP γ 6 expression in non-transfected 293T: sc-117752 (A), human L-type Ca⁺⁺ CP γ 6 transfected 293T: sc-176120 (B), Y79 (C), ARPE-19 (D), SK-N-MC (E) and H4 (F) 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.