

L-type Ca⁺⁺ CP γ 3 (H-46): sc-134678

BACKGROUND

Voltage-dependent calcium channels are important for the release of neurotransmitters into 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 made of eight distinct proteins (designated L-type Ca⁺⁺ CP γ 1- γ 8) and functions by influencing the properties of the calcium current. L-type Ca⁺⁺ CP γ 3, also known as CACNG3 or Cacng2, is a 315 amino acid multi-pass membrane protein that belongs to the CACNG family. As one of the eight γ subunits, L-type Ca⁺⁺ CP γ 3 is thought to stabilize the calcium current when the calcium channel is in a closed (inactivated) state. Defects in the gene encoding L-type Ca⁺⁺ CP γ 3 may be associated with familial infantile convulsive disorder with paroxysmal choreoathetosis, an autosomal dominant neurological disorder.

REFERENCES

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2. Burgess, D.L., et al. 1999. Identification of three novel Ca²⁺ channel γ subunit genes reveals molecular diversification by tandem and chromosome duplication. *Genome Res.* 9: 1204-1213.
3. Black, J.L. and Lennon, V.A. 1999. Identification and cloning of putative human neuronal voltage-gated calcium channel γ 2 and γ 3 subunits: neurologic implications. *Mayo Clin. Proc.* 74: 357-361.
4. 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.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606403. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Moss, F.J., et al. 2003. Human neuronal stargazin-like proteins, γ 2, γ 3 and γ 4: an investigation of their specific localization in human brain and their influence on CaV2.1 voltage-dependent calcium channels expressed in *Xenopus* oocytes. *BMC Neurosci.* 4: 23.
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CHROMOSOMAL LOCATION

Genetic locus: CACNG3 (human) mapping to 16p12.1; Cacng3 (mouse) mapping to 7 F3.

SOURCE

L-type Ca⁺⁺ CP γ 3 (H-46) is a rabbit polyclonal antibody raised against amino acids 187-232 mapping within an internal region of L-type Ca⁺⁺ CP γ 3 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

L-type Ca⁺⁺ CP γ 3 (H-46) is recommended for detection of L-type Ca⁺⁺ CP γ 3 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)], 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).

Suitable for use as control antibody for L-type Ca⁺⁺ CP γ 3 siRNA (h): sc-93047, L-type Ca⁺⁺ CP γ 3 siRNA (m): sc-155914, L-type Ca⁺⁺ CP γ 3 shRNA Plasmid (h): sc-93047-SH, L-type Ca⁺⁺ CP γ 3 shRNA Plasmid (m): sc-155914-SH, L-type Ca⁺⁺ CP γ 3 shRNA (h) Lentiviral Particles: sc-93047-V and L-type Ca⁺⁺ CP γ 3 shRNA (m) Lentiviral Particles: sc-155914-V.

Molecular Weight of L-type Ca⁺⁺ CP γ 3: 36 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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