

T-type Ca⁺⁺ CP α1G (L-19): sc-16259

BACKGROUND

Voltage-dependent Ca⁺⁺ channels mediate Ca⁺⁺ entry into excitable cells in response to membrane depolarization, and they are involved in a variety of Ca⁺⁺-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⁺⁺ 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⁺⁺ 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., et al 1995. Molecular biology of calcium channels. *Kidney Int.* 48: 1111-1124.
2. Randall, A.D. 1998. The molecular basis of voltage-gated Ca²⁺ channel diversity: is it time for T? *J. Membr. Biol.* 161: 207-213.
3. Catterall, W.A. 2000. Structure and regulation of voltage-gated Ca²⁺ channels. *Annu. Rev. Cell. Dev. Biol.* 16: 521-525.
4. Kawai, F., et al. 2001. Enhancement by T-type Ca²⁺ currents of odor sensitivity in olfactory receptor cells. *J. Neurosci.* 21: 44.
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: CACNA1G (human) mapping to 17q21.33; Cacna1g (mouse) mapping to 11 D.

SOURCE

T-type Ca⁺⁺ CP α1G (L-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of T-type Ca⁺⁺ CP α1G 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-16259 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.

RESEARCH USE

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

APPLICATIONS

T-type Ca⁺⁺ CP α1G (L-19) is recommended for detection of T-type calcium channel α1G of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

T-type Ca⁺⁺ CP α1G (L-19) is also recommended for detection of T-type calcium channel α1G in additional species, including equine, canine and bovine.

Suitable for use as control antibody for T-type Ca⁺⁺ CP α1G siRNA (h): sc-42704, T-type Ca⁺⁺ CP α1G siRNA (m): sc-42705, T-type Ca⁺⁺ CP α1G shRNA Plasmid (h): sc-42704-SH, T-type Ca⁺⁺ CP α1G shRNA Plasmid (m): sc-42705-SH, T-type Ca⁺⁺ CP α1G shRNA (h) Lentiviral Particles: sc-42704-V and T-type Ca⁺⁺ CP α1G shRNA (m) Lentiviral Particles: sc-42705-V.

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) 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.

SELECT PRODUCT CITATIONS

1. Trevino, C.L., et al. 2004. Expression and differential cell distribution of low-threshold Ca²⁺ channels in mammalian male germ cells and sperm. *FEBS Lett.* 563: 87-92.

PROTOCOLS

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