

T-type Ca⁺⁺ CP α 1I (C-15): sc-16266

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. T-type Ca⁺ currents are activated and inactivated more rapidly and at more negative membrane potentials than other Ca⁺ current types. T-type Ca⁺ channels enhance odor sensitivity by lowering the threshold of spike generation in olfactory receptor cells (ORCs).

REFERENCES

1. Perez-Reyes, E. and Schneider, T. 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. and Miyachi, E. 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: CACNA1I (human) mapping to 22q13.1; Cacna1i (mouse) mapping to 15 E1.

SOURCE

T-type Ca⁺⁺ CP α 1I (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of T-type Ca⁺⁺ CP α 1I of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-16266 P, (100 μ g 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.

PROTOCOLS

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

APPLICATIONS

T-type Ca⁺⁺ CP α 1I (C-15) is recommended for detection of T-type calcium channel α 1I 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 α 1I (C-15) is also recommended for detection of T-type calcium channel α 1I in additional species, including bovine and porcine.

Suitable for use as control antibody for T-type Ca⁺⁺ CP α 1I siRNA (h): sc-42708, T-type Ca⁺⁺ CP α 1I siRNA (m): sc-42709, T-type Ca⁺⁺ CP α 1I shRNA Plasmid (h): sc-42708-SH, T-type Ca⁺⁺ CP α 1I shRNA Plasmid (m): sc-42709-SH, T-type Ca⁺⁺ CP α 1I shRNA (h) Lentiviral Particles: sc-42708-V and T-type Ca⁺⁺ CP α 1I shRNA (m) Lentiviral Particles: sc-42709-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.

RESEARCH USE

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



Try **T-type Ca⁺⁺ CP α 1I (3H5): sc-293486**, our highly recommended monoclonal alternative to T-type Ca⁺⁺ CP α 1I (C-15).