

# T-type Ca<sup>++</sup> CP $\alpha$ 1G (C-20): sc-16260

## BACKGROUND

Voltage-dependent Ca<sup>2+</sup> channels mediate Ca<sup>2+</sup> entry into excitable cells in response to membrane depolarization, and they are involved in a variety of Ca<sup>2+</sup>-dependent processes, including muscle contraction, hormone or neurotransmitter release and gene expression. Calcium channels are highly diverse, multimeric complexes composed of an  $\alpha$ -1 subunit, an intracellular  $\beta$  subunit, a disulfide linked  $\alpha$ -2/ $\delta$  subunit and a transmembrane  $\gamma$  subunit. Ca<sup>2+</sup> 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<sup>++</sup> currents are activated and inactivated more rapidly and at more negative membrane potentials than other Ca<sup>2+</sup> current types. T-type Ca<sup>++</sup> channels enhance odor sensitivity by lowering the threshold of spike generation in olfactory receptor cells (ORCs).

## 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 Ca<sup>2+</sup> channel diversity: is it time for T? *J. Membr. Biol.* 161: 207-213.
3. Catterall, W.A. 2000. Structure and regulation of voltage-gated Ca<sup>2+</sup> channels. *Annu. Rev. Cell Dev. Biol.* 16: 521-525.
4. Kawai, F., et al. 2001. Enhancement by T-type Ca<sup>2+</sup> currents of odor sensitivity in olfactory receptor cells. *J. Neurosci.* 21: 44.
5. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 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<sup>++</sup> CP  $\alpha$ 1G (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of T-type Ca<sup>++</sup> CP  $\alpha$ 1G of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-16260 P, (100  $\mu$ 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.

## RESEARCH USE

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

## APPLICATIONS

T-type Ca<sup>++</sup> CP  $\alpha$ 1G (C-20) is recommended for detection of T-type calcium channel  $\alpha$ 1G 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

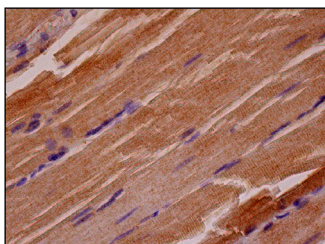
T-type Ca<sup>++</sup> CP  $\alpha$ 1G (C-20) is also recommended for detection of T-type calcium channel  $\alpha$ 1G in additional species, including canine and porcine.

Suitable for use as control antibody for T-type Ca<sup>++</sup> CP  $\alpha$ 1G siRNA (h): sc-42704, T-type Ca<sup>++</sup> CP  $\alpha$ 1G siRNA (m): sc-42705, T-type Ca<sup>++</sup> CP  $\alpha$ 1G shRNA Plasmid (h): sc-42704-SH, T-type Ca<sup>++</sup> CP  $\alpha$ 1G shRNA Plasmid (m): sc-42705-SH, T-type Ca<sup>++</sup> CP  $\alpha$ 1G shRNA (h) Lentiviral Particles: sc-42704-V and T-type Ca<sup>++</sup> CP  $\alpha$ 1G 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz<sup>™</sup>: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



T-type Ca<sup>++</sup> CP  $\alpha$ 1G (C-20): sc-16260. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

## SELECT PRODUCT CITATIONS

1. Trevino, C.L., et al. 2004. Expression and differential cell distribution of low-threshold Ca<sup>2+</sup> channels in mammalian male germ cells and sperm. *FEBS Lett.* 563: 87-92.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.