SANTA CRUZ BIOTECHNOLOGY, INC.

T-type Ca^{++} CP α1G (H-45): sc-28617

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 Ca^{2+} 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^{2+} channels. Annu. Rev. Cell. Dev. Biol. 16: 521-525.
4. Kawai, F. and Miyachi, E. 2001. Enhancement by T-type Ca^{2+} currents of odor sensitivity in olfactory receptor cells. J. Neurosci. 21: 144.
5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 601011. URL: http://www.ncbi.nlm.nih.gov/omim/
6. Wappl, E., et al. 2002. Functional consequences of P/Q-type Ca^{2+} channel Cav2.1 missense mutations associated with episodic ataxia type 2 and progressive ataxia. J. Biol. Chem. 277: 6960-6966.
7. Chaudhuri, D., et al. 2004. Alternative splicing as a molecular switch for Ca^{2+}/calmodulin-dependent facilitation of P/Q-type Ca^{2+} channels. J. Neurosci. 24: 6334-6342.

CHROMOSOMAL LOCATION

Genetic locus: CACNA1G (human) mapping to 17q21.33; Cacna1g (mouse) mapping to 11 D.

SOURCE

T-type Ca^{++} CP α1G (H-45) is a rabbit polyclonal antibody raised against amino acids 6-50 mapping within a cytoplasmic domain 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.

STORAGE

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

APPLICATIONS

T-type Ca^{++} CP α1G (H-45) is recommended for detection of T-type Ca^{++} CP α1G of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

T-type Ca^{++} CP α1G (H-45) is also recommended for detection of T-type Ca^{++} CP α1G in additional species, including equine and canine.

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 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.

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.