SANTA CRUZ BIOTECHNOLOGY, INC.

T-type Ca^{++} CP α1I (H-160): sc-28615

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Voltage-dependent Ca^{2+} channels mediate Ca^{2+} entry into excitable cells in response to membrane depolarization, and they are involved in a variety of Ca^{2+}-dependent processes, including muscle contraction, hormone or neurotransmitter release and gene expression. Calcium channels are highly diverse, multimeric complexes composed of an α1 subunit, an intracellular β subunit, a disulfide linked α2/δ subunit and a transmembrane γ subunit. Ca^{2+} 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^{2+} 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: 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/
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: CACNA1I (human) mapping to 22q13.1; Cacna1i (mouse) mapping to 15 E1.

SOURCE

T-type Ca^{++} CP α1I (H-160) is a rabbit polyclonal antibody raised against amino acids 1881-2040 mapping within a cytoplasmic domain of T-type Ca^{++} CP α1I 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 α1I (H-160) is recommended for detection of T-type Ca^{++} CP α1I 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 α1I (H-160) is also recommended for detection of T-type Ca^{++} CP α1I in additional species, including porcine.

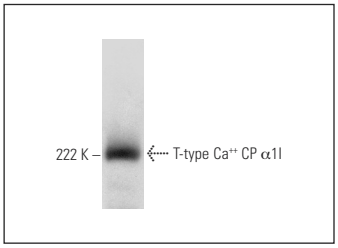
Suitable for use as control antibody for T-type Ca^{++} CP α1I siRNA (h): sc-42708, T-type Ca^{++} CP α1I siRNA (m): sc-42709, T-type Ca^{++} CP α1I shRNA Plasmid (h): sc-42708-SH, T-type Ca^{++} CP α1I shRNA Plasmid (m): sc-42709-SH, T-type Ca^{++} CP α1I shRNA (h) Lentiviral Particles: sc-42708-V and T-type Ca^{++} CP α1I shRNA (m) Lentiviral Particles: sc-42709-V.

Positive Controls: HeLa whole cell lysate: sc-2200 or T98G cell lysate: sc-2294.

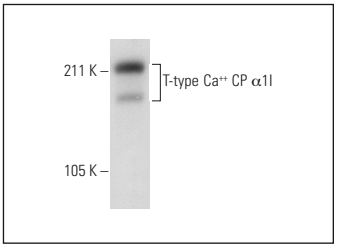
RECOMMENDED SECONDARY REAGENTS

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.

DATA



T-type Ca^{++} CP α1I (H-160): sc-28615. Western blot analysis of T-type Ca^{++} CP α1I expression in HeLa whole cell lysate.



T-type Ca^{++} CP α1I (H-160): sc-28615. Western blot analysis of T-type Ca^{++} CP α1I expression in T98G whole cell lysates.

RESEARCH USE

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