

# T-type Ca<sup>++</sup> CP α1G (H-300): sc-25690

## BACKGROUND

Voltage-dependent Ca<sup>++</sup> channels mediate Ca<sup>++</sup> entry into excitable cells in response to membrane depolarization, and they are involved in a variety of Ca<sup>++</sup>-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<sup>++</sup> 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<sup>++</sup> 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 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: 521-555.
4. Davare, M.A., et al. 2001. A β<sub>2</sub> adrenergic receptor signaling complex assembled with the Ca<sup>2+</sup> channel Cav1.2. *Science* 293: 98-101.

## CHROMOSOMAL LOCATION

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

## SOURCE

T-type Ca<sup>++</sup> CP α1G (H-300) is a rabbit polyclonal antibody raised against amino acids 2078-2377 of T-type Ca<sup>++</sup> 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.

## RESEARCH USE

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

## PROTOCOLS

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

## APPLICATIONS

T-type Ca<sup>++</sup> CP α1G (H-300) is recommended for detection of T-type Ca<sup>++</sup> 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<sup>++</sup> CP α1G (H-300) is also recommended for detection of T-type Ca<sup>++</sup> CP α1G in additional species, including canine, bovine and porcine.

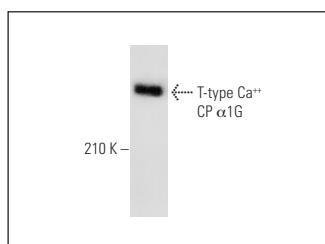
Suitable for use as control antibody for T-type Ca<sup>++</sup> CP α1G siRNA (h): sc-42704, T-type Ca<sup>++</sup> CP α1G siRNA (m): sc-42705, T-type Ca<sup>++</sup> CP α1G shRNA Plasmid (h): sc-42704-SH, T-type Ca<sup>++</sup> CP α1G shRNA Plasmid (m): sc-42705-SH, T-type Ca<sup>++</sup> CP α1G shRNA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

Positive Controls: I-11.15 whole cell lysate: sc-364370.

## 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<sup>++</sup> CP α1G (H-300): sc-25690. Western blot analysis of T-type Ca<sup>++</sup> CP α1G expression in I-11.15 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Walsh, C.P., et al. 2009. Three-dimensional structure of CaV3.1: comparison with the cardiac L-type voltage-gated calcium channel monomer architecture. *J. Biol. Chem.* 284: 22310-22321.
2. Zemskov, E.A., et al. 2011. Unconventional secretion of tissue transglutaminase involves phospholipid-dependent delivery into recycling endosomes. *PLoS ONE* 6: e19414.