SANTA CRUZ BIOTECHNOLOGY, INC.

T-type Ca^{++} CP α1H (H-300): sc-25691

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. L-type Ca^{++} 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.

CHROMOSOMAL LOCATION

Genetic locus: CACNA1H (human) mapping to 16p13.3; Cacna1h (mouse) mapping to 17 A3.3.

SOURCE

T-type Ca^{++} CP α1H (H-300) is a rabbit polyclonal antibody raised against amino acids 2174-2353 of T-type Ca^{++} CP α1H 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.

APPLICATIONS

T-type Ca^{++} CP α1H (H-300) is recommended for detection of T-type Ca^{++} CP α1H 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), 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). Suitable for use as control antibody for T-type Ca^{++} CP α1H siRNA (h): sc-42706, T-type Ca^{++} CP α1H siRNA (m): sc-42707, T-type Ca^{++} CP α1H shRNA Plasmid (h): sc-42706-SH, T-type Ca^{++} CP α1H shRNA Plasmid (m): sc-42707-SH, T-type Ca^{++} CP α1H shRNA (h) Lentiviral Particles: sc-42706-V and T-type Ca^{++} CP α1H shRNA (m) Lentiviral Particles: sc-42707-V.

Molecular Weight (predicted) of T-type Ca^{++} CP α1H: 259 kDa.

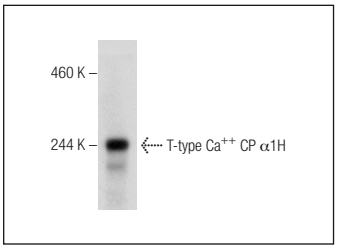
Molecular Weight (observed) of T-type Ca^{++} CP α1H: 247-257 kDa.

Positive Controls: human placenta extract: sc-363772.

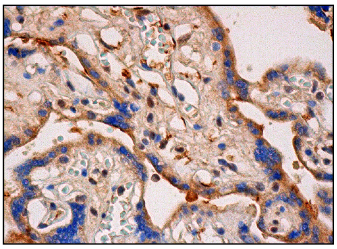
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



T-type Ca^{++} CP α1H (H-300): sc-25691. Western blot analysis of T-type Ca^{++} CP α1H expression in human placenta tissue extract.



T-type Ca^{++} CP α1H (H-300): sc-25691. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells.

SELECT PRODUCT CITATIONS

1. Aromolaran, K.A., et al. 2010. T-type current modulation by the Actin-binding protein Kelch-like 1. Am. J. Physiol., Cell Physiol. 298: C1353-C1362.
2. Weiss, N., et al. 2013. Surface expression and function of $Ca_V3.2$ T-type calcium channels are controlled by asparagine-linked glycosylation. Pflugers Arch. 465: 1159-1170.
3. Rehak, R., et al. 2013. Low voltage activation of KCa1.1 current by Ca_V3-KCa1.1 complexes. PLoS ONE 8: e61844.
4. Gou, L.T., et al. 2014. Pachytene piRNAs instruct massive mRNA elimination during late spermiogenesis. Cell Res. 24: 680-700.

PROTOCOLS

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