SANTA CRUZ BIOTECHNOLOGY, INC.

T-type Ca^{++} CP α1H (G-10): sc-377510

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 α-1 subunit, an intracellular β-subunit, a disulfide linked α-2/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. L-type Ca^{2+} 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.

SOURCE

T-type Ca^{++} CP α1H (G-10) is a mouse monoclonal antibody raised against amino acids 2174-2353 of T-type Ca^{++} CP α1H of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

T-type Ca^{++} CP α1H (G-10) is available conjugated to agarose (sc-377510 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377510 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377510 PE), fluorescein (sc-377510 FITC), Alexa Fluor® 488 (sc-377510 AF488), Alexa Fluor® 546 (sc-377510 AF546), Alexa Fluor® 594 (sc-377510 AF594) or Alexa Fluor® 647 (sc-377510 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377510 AF680) or Alexa Fluor® 790 (sc-377510 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

T-type Ca^{++} CP α1H (G-10) is recommended for detection of T-type Ca^{++} CP α1H of human origin by Western Blotting (starting dilution 1:100, 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 shRNA Plasmid (h): sc-42706-SH and T-type Ca^{++} CP α1H shRNA (h) Lentiviral Particles: sc-42706-V.

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

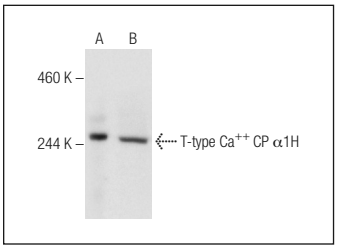
Molecular Weight (observed) of T-type Ca^{++} CP α1H: 247-257 kDa.

Positive Controls: human placenta extract: sc-363772 or extracellular matrix tissue extract.

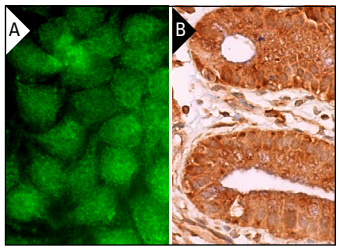
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



T-type Ca^{++} CP α1H (G-10): sc-377510. Western blot analysis of T-type Ca^{++} CP α1H expression in human placenta (**A**) and extracellular matrix (**B**) tissue extracts.



T-type Ca^{++} CP α1H (G-10): sc-377510. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Cretoiu, S.M., et al. 2015. Isolated human uterine telocytes: immunocytochemistry and electrophysiology of T-type calcium channels. Histochem. Cell Biol. 143: 83-94.
2. Wang, L., et al. 2021. Trophoblasts modulate the Ca^{2+} oscillation and contraction of myometrial smooth muscle cells by small extracellular vesicle- (sEV-) mediated exporting of miR-25-3p during premature labor. Oxid. Med. Cell. Longev. 2021: 8140667.

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 for detailed protocols and support products.