SANTA CRUZ BIOTECHNOLOGY, INC.

TRPC6 (B-10): sc-515837

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Transient receptor potential cation (TRPC) channels are a superfamily of six transmembrane segment-spanning, gated cation channels. TRPC subtypes mediate store-operated Ca^{2+} entry, a process involving Ca^{2+} influx and replenishment of Ca^{2+} stores formerly emptied through the action of inositol 1,4,5-trisphosphate production and other Ca^{2+} mobilizing agents. TRPC ion channels influence calcium-depletion induced calcium influx processes in response to chemo-, mechano- and osmoregulatory events. Human TRPC6 protein is a 931 amino acid cation channel that is predominantly expressed in placenta, spleen, lung, small intestine and ovary. Activated by diacylglycerol (DAG), TRPC6 comprises the α_1-adrenoceptor-activated Ca^{2+}-permeable cation channel. The gene encoding human TRPC6 maps to chromosome 11q22.1.

CHROMOSOMAL LOCATION

Genetic locus: TRPC6 (human) mapping to 11q22.1; Trpc6 (mouse) mapping to 9 A1.

SOURCE

TRPC6 (B-10) is a mouse monoclonal antibody raised against amino acids 546-590 mapping within an extracellular domain of TRPC6 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.

TRPC6 (B-10) is available conjugated to agarose (sc-515837 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515837 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515837 PE), fluorescein (sc-515837 FITC), Alexa Fluor® 488 (sc-515837 AF488), Alexa Fluor® 546 (sc-515837 AF546), Alexa Fluor® 594 (sc-515837 AF594) or Alexa Fluor® 647 (sc-515837 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515837 AF680) or Alexa Fluor® 790 (sc-515837 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

TRPC6 (B-10) is recommended for detection of TRPC6 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

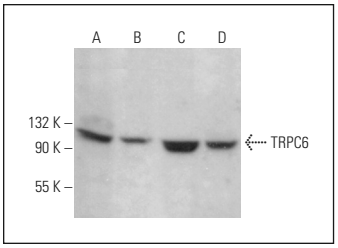
Suitable for use as control antibody for TRPC6 siRNA (h): sc-42672, TRPC6 siRNA (m): sc-42673, TRPC6 shRNA Plasmid (h): sc-42672-SH, TRPC6 shRNA Plasmid (m): sc-42673-SH, TRPC6 shRNA (h) Lentiviral Particles: sc-42672-V and TRPC6 shRNA (m) Lentiviral Particles: sc-42673-V.

Positive Controls: A549 cell lysate: sc-2413, WI-38 whole cell lysate: sc-364260 or BT-20 cell lysate: sc-2223.

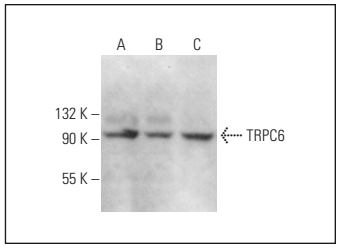
RECOMMENDED SUPPORT REAGENTS

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.

DATA



TRPC6 (B-10): sc-515837. Western blot analysis of TRPC6 expression in A549 (**A**), DU 145 (**B**), F9 (**C**) and AT3B-1 (**D**) whole cell lysates.



TRPC6 (B-10): sc-515837. Western blot analysis of TRPC6 expression in WI-38 (**A**), BT-20 (**B**) and RT-4 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Dong, F., et al. 2019. Chrysin alleviates chronic hypoxia-induced pulmonary hypertension by reducing intracellular calcium concentration in pulmonary arterial smooth muscle cells. J. Cardiovasc. Pharmacol. 74: 426-435.
2. Hassanzadeh Khayyat, N., et al. 2019. TRPC6 inactivation does not protect against diabetic kidney disease in streptozotocin (STZ)-treated Sprague-Dawley rats. FASEB Bioadv. 1: 773-782.
3. Irnaten, M., et al. 2020. Receptor potential channels TRPC1/TRPC6 regulate lamina cribrosa cell extracellular matrix gene transcription and proliferation. Exp. Eye Res. 193: 107980.
4. Dong, F. and Zhang, J. 2020. Carboxyl terminus of HSC 70-interacting protein (CHIP) promotes pulmonary artery smooth muscle cell (PASMC) proliferation via enhancement of intracellular Ca^{2+} concentration ($[Ca^{2+}]_i$). Exp. Lung Res. 46: 332-340.
5. Castillo-Galán, S., et al. 2020. Stim-activated TRPC-ORAI channels in pulmonary hypertension induced by chronic intermittent hypoxia. Pulm. Circ. 10: 13-22.
6. Chen, L., et al. 2021. Atractylodis rhizoma water extract attenuates fructose-induced glomerular injury in rats through anti-oxidation to inhibit TRPC6/p-CaMK4 signaling. Phytomedicine 91: 153643.

RESEARCH USE

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