SANTA CRUZ BIOTECHNOLOGY, INC.

TRPC3 (C-5): sc-514670

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 TRPC3 protein, also known as TRP3, is a cation channel that is predominantly expressed in brain. The activation of store-mediated Ca^{2+} entry in human cells likely occurs through the association between IP3R (inositol 1,4,5-trisphosphate receptors) and TRPC3. TRPC3 activity is also activated by DAG (diacylglycerol) independently of PKC (protein kinase C). Human TRPC6 is predominantly expressed in placenta, spleen, lung, small intestine and ovary. Also activated by diacylglycerol (DAG), TRPC6 comprises the α1-adrenoceptor-activated Ca^{2+}-permeable cation channel.

CHROMOSOMAL LOCATION

Genetic locus: TRPC3 (human) mapping to 4q27; Trpc3 (mouse) mapping to 3 B.

SOURCE

TRPC3 (C-5) is a mouse monoclonal antibody raised against amino acids 1-100 mapping at the N-terminus of TRPC3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TRPC3 (C-5) is available conjugated to agarose (sc-514670 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514670 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514670 PE), fluorescein (sc-514670 FITC), Alexa Fluor® 488 (sc-514670 AF488), Alexa Fluor® 546 (sc-514670 AF546), Alexa Fluor® 594 (sc-514670 AF594) or Alexa Fluor® 647 (sc-514670 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514670 AF680) or Alexa Fluor® 790 (sc-514670 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TRPC3 (C-5) is recommended for detection of TRPC3 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 TRPC3 siRNA (h): sc-42666, TRPC3 siRNA (m): sc-42667, TRPC3 shRNA Plasmid (h): sc-42666-SH, TRPC3 shRNA Plasmid (m): sc-42667-SH, TRPC3 shRNA (h) Lentiviral Particles: sc-42666-V and TRPC3 shRNA (m) Lentiviral Particles: sc-42667-V.

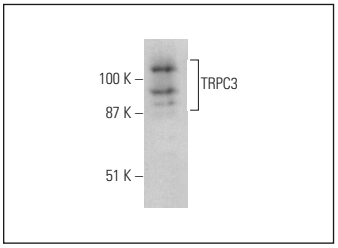
Molecular Weight of TRPC3: 97/106/100 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

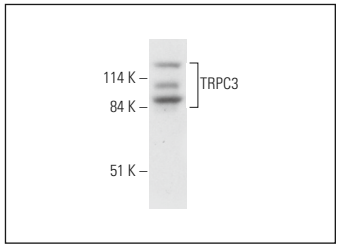
STORAGE

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

DATA



TRPC3 (C-5) HRP: sc-514670 HRP. Direct western blot analysis of TRPC3 expression in HeLa whole cell lysate.



TRPC3 (C-5): sc-514670. Western blot analysis of TRPC3 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Wang, Y., et al. 2016. TRPC1/TRPC3 channels mediate lysophosphatidylcholine-induced apoptosis in cultured human coronary artery smooth muscles cells. Oncotarget 7: 50937-50951.
2. Li, G., et al. 2018. Bradykinin-mediated Ca^{2+} signalling regulates cell growth and mobility in human cardiac c-Kit+ progenitor cells. J. Cell. Mol. Med. 22: 4688-4699.
3. Tang, S.G., et al. 2019. Trimetazidine prevents diabetic cardiomyopathy by inhibiting Nox2/TRPC3-induced oxidative stress. J. Pharmacol. Sci. 139: 311-318.
4. Tsumagari, R., et al. 2020. Precise regulation of the basal PKCγ activity by DGKγ is crucial for motor coordination. Int. J. Mol. Sci. 21: 21: 7866.
5. Creisméas, A., et al. 2021. TRPC3, but not TRPC1, as a good therapeutic target for standalone or complementary treatment of DMD. J. Transl. Med. 19: 519.
6. Xue, C., et al. 2022. Irisin mediates beiging of adipose-derived mesenchymal stem cells through binding to TRPC3. BMC Biol. 20: 95.
7. Wong, C.J.K., et al. 2022. Brief exposure to directionally-specific pulsed electromagnetic fields stimulates extracellular vesicle release and is antagonized by streptomycin: a potential regenerative medicine and food industry paradigm. Biomaterials 287: 121658.
8. Xue, C., et al. 2022. Mesenchymal stem cells derived from adipose accelerate the progression of colon cancer by inducing a MT-CAFs phenotype via TRPC3/NFκB axis. Stem Cell Res. Ther. 13: 335.
9. Li, Y., et al. 2024. A switch in the pathway of TRPC3-mediated calcium influx into brain pericytes contributes to capillary spasms after subarachnoid hemorrhage. Neurotherapeutics 21: e00380.

RESEARCH USE

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