

## TRPC1 (E-6): sc-133076



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  $\text{Ca}^{2+}$  entry, a process involving  $\text{Ca}^{2+}$  influx and replenishment of  $\text{Ca}^{2+}$  stores formerly emptied through the action of inositol 1,4,5-trisphosphate production and other  $\text{Ca}^{2+}$  mobilizing agents. TRPC ion channels influence calcium-depletion induced calcium influx processes in response to chemo-, mechano- and osmoregulatory events. Human TRPC1 protein is a 793 amino acid cation channel that is expressed in fetal and adult brain, and adult heart, testis and ovary, where it may influence store-operated  $\text{Ca}^{2+}$  entry as a component of capacitative calcium entry (CCE) complexes. The activation of store-mediated  $\text{Ca}^{2+}$  entry in human cells occurs through the association between inositol 1,4,5-trisphosphate receptors and TRPC1.

## CHROMOSOMAL LOCATION

Genetic locus: TRPC1 (human) mapping to 3q23; Trpc1 (mouse) mapping to 9 E3.3.

## SOURCE

TRPC1 (E-6) is a mouse monoclonal antibody raised against amino acids 689-793 mapping at the C-terminus of TRPC1 of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TRPC1 (E-6) is available conjugated to agarose (sc-133076 AC), 500  $\mu\text{g}$ /0.25 ml agarose in 1 ml, for IP; to HRP (sc-133076 HRP), 200  $\mu\text{g}/\text{ml}$ , for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133076 PE), fluorescein (sc-133076 FITC), Alexa Fluor® 488 (sc-133076 AF488), Alexa Fluor® 546 (sc-133076 AF546), Alexa Fluor® 594 (sc-133076 AF594) or Alexa Fluor® 647 (sc-133076 AF647), 200  $\mu\text{g}/\text{ml}$ , for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133076 AF680) or Alexa Fluor® 790 (sc-133076 AF790), 200  $\mu\text{g}/\text{ml}$ , for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

TRPC1 (E-6) is recommended for detection of TRPC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  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). TRPC1 (E-6) is also recommended for detection of TRPC1 in additional species, including canine, bovine and porcine.

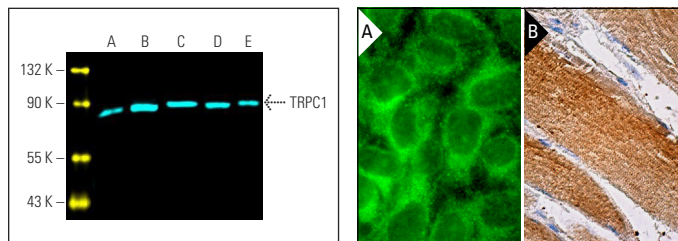
Suitable for use as control antibody for TRPC1 siRNA (h): sc-42664, TRPC1 siRNA (m): sc-42665, TRPC1 siRNA (r): sc-61872, TRPC1 shRNA Plasmid (h): sc-42664-SH, TRPC1 shRNA Plasmid (m): sc-42665-SH, TRPC1 shRNA Plasmid (r): sc-61872-SH, TRPC1 shRNA (h) Lentiviral Particles: sc-42664-V, TRPC1 shRNA (m) Lentiviral Particles: sc-42665-V and TRPC1 shRNA (r) Lentiviral Particles: sc-61872-V.

Molecular Weight of TRPC1: 88 kDa.

## STORAGE

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

## DATA



TRPC1 (E-6) Alexa Fluor® 647: sc-133076 AF647. Direct fluorescent western blot analysis of TRPC1 expression in F9 (A), c4 (B) and C6 (C) whole cell lysates and rat testis (D) and mouse testis (E) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 488: sc-516790.

TRPC1 (E-6) sc-133076. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes (B).

## SELECT PRODUCT CITATIONS

- Jung, E.J. and Kim, C.W. 2010. Caveolin-1 inhibits TrkA-induced cell death by influencing on TrkA modification associated with tyrosine-490 phosphorylation. *Biochem. Biophys. Res. Commun.* 402: 736-741.
- Salanova, M., et al. 2013. Nitrosative stress in human skeletal muscle attenuated by exercise countermeasure after chronic disuse. *Redox Biol.* 1: 514-526.
- Dragoni, S., et al. 2014. Store-operated  $\text{Ca}^{2+}$  entry does not control proliferation in primary cultures of human metastatic renal cellular carcinoma. *Biomed Res. Int.* 2014: 739494.
- Huang, Y.W., et al. 2015. Mechanosensitive store-operated calcium entry regulates the formation of cell polarity. *J. Cell. Physiol.* 230: 2086-2097.
- Sabourin, J., et al. 2016. Transient receptor potential canonical (TRPC)/ora1-dependent store-operated  $\text{Ca}^{2+}$  channels: new targets of aldosterone in cardiomyocytes. *J. Biol. Chem.* 291: 13394-13409.
- Lodola, F., et al. 2017. VEGF-induced intracellular  $\text{Ca}^{2+}$  oscillations are down-regulated and do not stimulate angiogenesis in breast cancer-derived endothelial colony forming cells. *Oncotarget* 8: 95223-95246.
- Heisler, F.F., et al. 2018. Muskelein coordinates PrP<sup>C</sup> lysosome versus exosome targeting and impacts Prion disease progression. *Neuron* 99: 1155-1169.e9.
- Bartoli, F., et al. 2019. Specific upregulation of TRPC1 and TRPC5 channels by mineralocorticoid pathway in adult rat ventricular cardiomyocytes. *Cells* 9: 47.
- Dyrda, A., et al. 2020. STIM1 long and STIM1 gate differently TRPC1 during store-operated calcium entry. *Cell Calcium* 86: 102134.

## RESEARCH USE

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA