SANTA CRUZ BIOTECHNOLOGY, INC.

TRPC1 (H-105): sc-20110

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Transient receptor potential cation (TRPC) channels are a superfamily of 6 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 TRPC1 protein is a 793 amino acid cation channel that is expressed in fetal and adult brain, and adult heart, testis and ovaries, where it may influence store-operated Ca^{2+} entry as a component of capacitative calcium entry (CCE) complexes. The activation of store-mediated 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 (H-105) is a rabbit polyclonal antibody raised against amino acids 689-793 mapping at the C-terminus of TRPC1 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.

Available as agarose conjugate for immunoprecipitation, sc-20110 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

TRPC1 (H-105) is recommended for detection of TRPC1 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).

TRPC1 (H-105) is also recommended for detection of TRPC1 in additional species, including equine, canine, bovine, porcine and avian.

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

Molecular Weight of TRPC1: 88 kDa.

Positive Controls: Rat testis extract: sc-2400, mouse testis extract: sc-2405 or SH-SY5Y cell lysate: sc-3812.

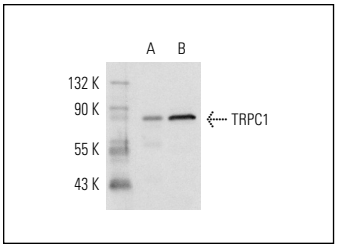
STORAGE

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

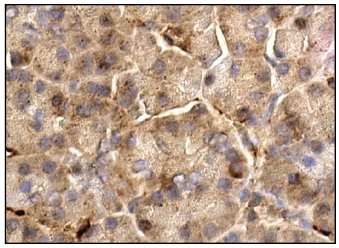
RESEARCH USE

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

DATA



TRPC1 (H-105): sc-20110. Western blot analysis of TRPC1 expression in rat testis (**A**) and mouse testis (**B**) tissue extracts.



TRPC1 (H-105): sc-20110. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Wang, X., et al. 2004. TRPC4 forms store-operated Ca^{2+} channels in mouse mesangial cells. Am. J. Physiol. Cell Physiol. 287: 357-364.
2. Brueggemann, L.I., et al. 2006. Pharmacological and electrophysiological characterization of store-operated currents and capacitative Ca^{2+} entry in vascular smooth muscle cells. J. Pharmacol. Exp. Ther. 317: 488-499.
3. Kannan, K.B., et al. 2007. Free cholesterol alters lipid raft fsructure and function regulating neutrophil Ca^{2+} entry and respiratory burst: correlations with calcium channel raft trafficking. J. Immunol. 178: 5253-5261.
4. Meng, F., et al. 2008. Role of TRP channels and NCX in mediating hypoxia-induced $[Ca^{2+}]^i$ elevation in PC-12 cells. Respir. Physiol. Neurobiol. 164: 386-393.
5. Formigli, L., et al. 2009. Regulation of transient receptor potential canonical channel 1 (TRPC1) by sphingosine 1-phosphate in C2C12 myoblasts and its relevance for a role of mechanotransduction in skeletal muscle differentiation. J. Cell Sci. 122: 1322-1333.
6. Matsuoka, H., et al. 2009. Ca^{2+} pathway involved in the refilling of store sites in rat adrenal medullary cells. Am. J. Physiol., Cell Physiol. 296: C889-C899.
7. Evans, J.F., et al. 2009. Ang-II-induced Ca^{2+} influx is mediated by the 1/4/5 subgroup of the transient receptor potential proteins in cultured aortic smooth muscle cells from diabetic Goto-Kakizaki rats. Mol. Cell. Endocrinol. 302: 49-57.
8. Meacci, E., et al. 2010. Functional interaction between TRPC1 channel and connexin-43 protein: a novel pathway underlying S1P action on skeletal myogenesis. Cell. Mol. Life Sci. 67: 4269-4285.