

TRPC1 (C-14): sc-15055

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 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 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.

REFERENCES

1. Wes, P.D., et al. 1995. TRPC1, a human homolog of a *Drosophila* store-operated channel. Proc. Natl. Acad. Sci. USA 92: 9652-9666.
2. Zhu, X., et al. 1995. Molecular cloning of a widely expressed human homologue for the *Drosophila* TRP gene. FEBS Lett. 373: 193-218.
3. Zitt, C., et al. 1996. Cloning and functional expression of a human Ca^{2+} -permeable cation channel activated by calcium store depletion. Neuron 16: 1189-1196.
4. Philipp, S., et al. 1998. A novel capacitative calcium entry channel expressed in excitable cells. EMBO J. 17: 4274-4282.
5. Harteneck, C., et al. 2000. From worm to man: three subfamilies of TRP channels. Trends Neurosci. 23: 159-166.
6. Hofmann, T., et al. 2000. Transient receptor potential channels as molecular substrates of receptor-mediated cation entry. J. Mol. Med. 78: 14-25.

CHROMOSOMAL LOCATION

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

SOURCE

TRPC1 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TRPC1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-15055 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

TRPC1 (C-14) 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), 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 (C-14) is also recommended for detection of TRPC1 in additional species, including equine, canine, bovine and porcine.

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

DATA



TRPC1 (C-14): sc-15055. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Niehof, M., et al. 2008. HNF-4 α and the Ca-channel TRPC1 are novel disease candidate genes in diabetic nephropathy. Diabetes 57: 1069-1077.
2. Barro-Soria, R., et al. 2010. ER-localized bestrophin 1 activates Ca^{2+} -dependent ion channels TMEM16A and SK4 possibly by acting as a counterion channel. Pflugers Arch. 459: 485-497.
3. Tang, C., et al. 2010. A role for receptor-operated Ca^{2+} entry in human pulmonary artery smooth muscle cells in response to hypoxia. Physiol. Res. 59: 909-918.

RESEARCH USE

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

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