

TRPC1 (A-14): sc-23011

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

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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.
7. Rosado, J.A., et al. 2001. Activation of store-mediated calcium entry by secretion-like coupling between the inositol 1,4,5-trisphosphate receptor type II and human transient receptor potential (hTRP1) channels in human platelets. Biochem. J. 356: 191-218.

CHROMOSOMAL LOCATION

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

SOURCE

TRPC1 (A-14) is an affinity purified goat polyclonal antibody mapping within an internal region 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-23011 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TRPC1 (A-14) is recommended for detection of TRPC1 long form 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with TRPC1 short form.

TRPC1 (A-14) is also recommended for detection of TRPC1 long form in additional species, including equine, bovine 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: 83 kDa.

Positive Controls: F9 cell lysate: sc-2245, rat testis extract: sc-2400 or mouse testis extract: sc-2405.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **TRPC1 (E-6): sc-133076**, our highly recommended monoclonal alternative to TRPC1 (A-14). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **TRPC1 (E-6): sc-133076**.