

LTRPC7 (K-20): sc-19563

BACKGROUND

Transient receptor potential (TRPC) ion channels are a super-family 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. TRP ion channels influence calcium-depletion-induced calcium influx processes in response to chemo-, mechano- and osmo-regulatory events. LTRPC7 and LTRPC2 (TRPC7) are both members of the long TRPC subfamily, which is characterized by open reading frames of around 1,600 amino-acid residues. LTRPC7 is another divalent cation channel for Ca^{2+} and Mg^{2+} .

REFERENCES

1. Nagamine, K., et al. 1998. Molecular cloning of a novel putative Ca^{2+} channel protein (TRPC7) highly expressed in brain. *Genomics* 54: 124-131.
2. Philipp, S., et al. 1998. A novel capacitative calcium entry channel expressed in excitable cells. *EMBO J.* 17: 4274-4282.
3. Hofmann, T., et al. 2000. Transient receptor potential channels as molecular substrates of receptor-mediated cation entry. *J. Mol. Med.* 78: 14-25.
4. Harteneck, C., et al. 2000. From worm to man: three subfamilies of TRP channels. *Trends Neurosci.* 23: 159-166.
5. Nadler, M.J., et al. 2001. LTRPC7 is a Mg.ATP-regulated divalent cation channel required for cell viability. *Nature* 411: 542-543.
6. Sano, Y., et al. 2001. Immuncyte Ca^{2+} influx system mediated by LTRPC2. *Science* 293: 1327-1330.
7. Perraud, A.L., et al. 2001. ADP-ribose gating of the calcium-permeable LTRPC2 channel revealed by Nudix motif homology. *Nature* 411: 595-599.

CHROMOSOMAL LOCATION

Genetic locus: TRPM7 (human) mapping to 15q21.2; Trpm7 (mouse) mapping to 2 F1.

SOURCE

LTRPC7 (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LTRPC7 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-19563 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

LTRPC7 (K-20) is recommended for detection of LTRPC7 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).

LTRPC7 (K-20) is also recommended for detection of LTRPC7 in additional species, including equine, canine, bovine and porcine.

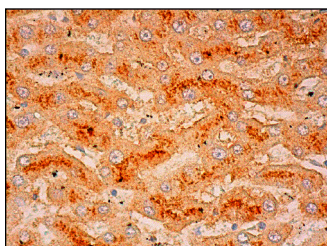
Suitable for use as control antibody for LTRPC7 siRNA (h): sc-42662, LTRPC7 siRNA (m): sc-42663, LTRPC7 shRNA Plasmid (h): sc-42662-SH, LTRPC7 shRNA Plasmid (m): sc-42663-SH, LTRPC7 shRNA (h) Lentiviral Particles: sc-42662-V and LTRPC7 shRNA (m) Lentiviral Particles: sc-42663-V.

Molecular Weight of LTRPC7: 213 kDa.

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



LTRPC7 (K-20): sc-19563. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

PROTOCOLS

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

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Try **LTRPC7 (H-4): sc-271099**, our highly recommended monoclonal alternative to LTRPC7 (K-20).