SANTA CRUZ BIOTECHNOLOGY, INC.

LTRPC7 (N-17): sc-19562

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

LTRPC7 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of LTRPC7 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.

Blocking peptide available for competition studies, sc-19562 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LTRPC7 (N-17) 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 (N-17) is also recommended for detection of LTRPC7 in additional species, including equine, canine, bovine, porcine and avian.

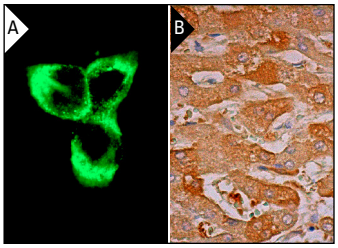
Suitable for use as control antibody for LTRPC7 siRNA (h): sc-42662, LTRPC7 siRNA (m): sc-42663, LTRPC7 shRNA Plasmid (h): sc-42662-SH, LTRPC7 shRNA Plasmid (m): sc-42663-SH, LTRPC7 shRNA (h) Lentiviral Particles: sc-42662-V and LTRPC7 shRNA (m) Lentiviral Particles: sc-42663-V.

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 (N-17): sc-19562. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes (**B**).

SELECT PRODUCT CITATIONS

1. Jiang, H., et al. 2008. Trk A pathway(s) is involved in regulation of TRPM7 expression in hippocampal neurons subjected to ischemic-reperfusion and oxygen-glucose deprivation. Brain Res. Bull. 76: 124-130.
2. Zhang, J., et al. 2011. Hypoxia induces an increase in intracellular magnesium via transient receptor potential melastatin 7 (TRPM7) channels in rat hippocampal neurons *in vitro*. J. Biol. Chem. 286: 20194-20207.

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.