SANTA CRUZ BIOTECHNOLOGY, INC.

TRPM2 (N-14): sc-19198

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Transient receptor potential ion channels (TRPC) are a superfamily of six transmembrane segment-spanning, gated cation channels. TRP 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. TRPM2 (known also as LTRPC2) is highly expressed in brain as well as in bone marrow, spleen, heart, liver and lung. Activation of TRPM2 by oxidative stress or TNFa extends susceptibility to cell death. Three physiological splice variants of human TRPM2 have been identified. The short variant of TRPM2, with a deletion in the carboxy-terminus, has been shown to function as an inhibitor of activity of the full-length TRPM2.

REFERENCES

1. Zhu, X., et al. 1995. Molecular cloning of a widely expressed human homologue for the *Drosophila* TRP gene. FEBS Lett. 373: 193-198.
2. Wes, P.D., et al. 1995. TRPC1, a human homolog of a *Drosophila* store-operated channel. Proc. Natl. Acad. Sci. USA 92: 9652-9666.
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. D'Esposito, M., et al. 1998. Identification and assignment of the human transient receptor potential channel 6 gene TRPC6 to chromosome 11q2 → q22. Cytogenet. Cell. Genet. 83: 46-47.
7. Hofmann, T., et al. 2000. Transient receptor potential channels as molecular substrates of receptor-mediated cation entry. J. Mol. Med. 78: 14-25.
8. Harteneck, C., et al. 2000. From worm to man: three subfamilies of TRP channels. Trends Neurosci. 23: 159-166.
9. Zhang, W., et al. 2006. TRPM2 is an ion channel that modulates hematopoietic cell death through activation of caspases and PARP cleavage. Am. J. Physiol. Cell Physiol. 290: C1146-C1159.

CHROMOSOMAL LOCATION

Genetic locus: TRPM2 (human) mapping to 21q22.3.

SOURCE

TRPM2 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of TRPM2 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-19198 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TRPM2 (N-14) is recommended for detection of TRPM2 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

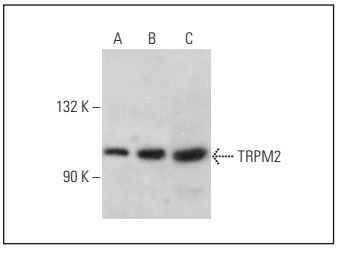
Suitable for use as control antibody for TRPM2 siRNA (h): sc-42674, TRPM2 shRNA Plasmid (h): sc-42674-SH and TRPM2 shRNA (h) Lentiviral Particles: sc-42674-V.

Positive Controls: HL-60 whole cell lysate: sc-2209, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



TRPM2 (N-14): sc-19198. Western blot analysis of TRPM2 expression in Jurkat (**A**), K-562 (**B**) and HL-60 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yu, P.L., et al. 2012. A novel fluorescent cell membrane-permeable caged cyclic ADP-ribose analogue. J. Biol. Chem. 287: 24774-24783.

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.