

TRPM5 (N-20): sc-27366



The Power to Question

BACKGROUND

Transient receptor potential ion channels (TRPCs) 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. TRP ion channels influence calcium-depletion induced calcium influx processes in response to chemo-, mechano- and osmoregulatory events. TRPM5 forms a cation channel that is directly activated by micromolar concentrations of intracellular Ca^{2+} . Sustained exposure to Ca^{2+} desensitizes TRPM5 channels, but phosphatidylinositol-4,5-bisphosphate reverses desensitization, partially restoring channel activity. TRPM5 channels are nonselective among monovalent cations and not detectably permeable to divalent cations.

REFERENCES

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- Prawitt, D., Monteilh-Zoller, M.K., Brixel, L., Spangenberg, C., Zabel, B., Fleig, A. and Penner, R. 2003. TRPM5 is a transient Ca^{2+} -activated cation channel responding to rapid changes in $[Ca^{2+}]_i$. *Proc. Natl. Acad. Sci. USA* 100: 15166-15171.
- Hofmann, T., Chubanov, V., Gudermann, T. and Montell, C. 2003. TRPM5 is a voltage-modulated and Ca^{2+} -activated monovalent selective cation channel. *Curr. Biol.* 13: 1153-1158.
- Pérez, C.A., Margolskee, R.F., Kinnamon, S.C. and Ogura, T. 2003. Making sense with TRP channels: store-operated calcium entry and the ion channel Trpm5 in taste receptor cells. *Cell Calcium* 33: 541-549.
- Perraud, A.L., Knowles, H.M. and Schmitz, C. 2004. Novel aspects of signaling and ion-homeostasis regulation in immunocytes. The TRPM ion channels and their potential role in modulating the immune response. *Mol. Immunol.* 41: 657-673.

CHROMOSOMAL LOCATION

Genetic locus: TRPM5 (human) mapping to 11p15.5; Trpm5 (mouse) mapping to 7 F5.

SOURCE

TRPM5 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TRPM5 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-27366 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

TRPM5 (N-20) is recommended for detection of TRPM5 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).

TRPM5 (N-20) is also recommended for detection of TRPM5 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for TRPM5 siRNA (h): sc-44169, TRPM5 siRNA (m): sc-154695, TRPM5 shRNA Plasmid (h): sc-44169-SH, TRPM5 shRNA Plasmid (m): sc-154695-SH, TRPM5 shRNA (h) Lentiviral Particles: sc-44169-V and TRPM5 shRNA (m) Lentiviral Particles: sc-154695-V.

Molecular Weight of TRPM5: 131 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.

SELECT PRODUCT CITATIONS

- Teruyama, R., Sakuraba, M., Kurotaki, H. and Armstrong, W.E. 2011. Transient receptor potential channel m4 and m5 in magnocellular cells in rat supraoptic and paraventricular nuclei. *J. Neuroendocrinol.* 23: 1204-1213.

STORAGE

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

PROTOCOLS

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