

# TRPM4 (H-55): sc-67125



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  $\text{Ca}^{2+}$  entry, a process involving  $\text{Ca}^{2+}$  influx and replenishment of  $\text{Ca}^{2+}$  stores formerly emptied through the action of inositol 1,4,5-trisphosphate production and other  $\text{Ca}^{2+}$  mobilizing agents. TRP ion channels influence calcium-depletion induced calcium influx processes in response to chemo-, mechano- and osmoregulatory events. TRPM4 is a transient receptor potential channel with an intrinsic voltage-sensing mechanism. Voltage dependence of TRPM4 may be functionally important, especially in excitable tissues generating plateau-like or bursting action potentials. TRPM4-mediated depolarization modulates  $\text{Ca}^{2+}$  oscillations, with downstream effects on cytokine production in T lymphocytes.

## REFERENCES

1. Hoth, M., et al. 1997. Mitochondrial regulation of store-operated calcium signaling in T lymphocytes. *J. Cell Biol.* 137: 633-648.
2. Plant, T.D., et al. 2003. TRPC4 and TRPC5: receptor-operated  $\text{Ca}^{2+}$ -permeable nonselective cation channels. *Cell Calcium* 33: 441-450.
3. Nilius, B., et al. 2003. Voltage dependence of the  $\text{Ca}^{2+}$ -activated cation channel TRPM4. *J. Biol. Chem.* 278: 30813-30820.
4. Launay, P., et al. 2004. TRPM4 regulates calcium oscillations after T cell activation. *Science* 306: 1374-1377.

## CHROMOSOMAL LOCATION

Genetic locus: TRPM4 (human) mapping to 19q13.3.

## SOURCE

TRPM4 (H-55) is a rabbit polyclonal antibody raised against amino acids 306-360 mapping within an N-terminal cytoplasmic domain of TRPM4 of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

TRPM4 (H-55) is recommended for detection of TRPM4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  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).

TRPM4 (H-55) is also recommended for detection of TRPM4 in additional species, including canine and bovine.

Suitable for use as control antibody for TRPM4 siRNA (h): sc-45439, TRPM4 shRNA Plasmid (h): sc-45439-SH and TRPM4 shRNA (h) Lentiviral Particles: sc-45439-V.

Molecular Weight of TRPM4: 134 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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](http://www.scbt.com) or our catalog for detailed protocols and support products.