

# ANKTM1 (H-155): sc-66808

## 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. ANKTM1, also designated TRPA1, plays a role in both nociceptor and hair cell transduction. Activation of ANKTM1 occurs by perception of noxious cold (less than 17 degrees Celsius) and pungent natural compounds, such as garlic, cinnamon oil and mustard oil. Inhibition of ANKTM1 impairs hair cell mechanotransduction. Blocking ANKTM1 may be a therapeutic target for treating cold hyperalgesia caused by inflammation and nerve damage.

## REFERENCES

1. Corey, D.P., et al. 2004. TRPA1 is a candidate for the mechanosensitive transduction channel of vertebrate hair cells. *Nature* 432: 723-730.
2. Tominaga, M., et al. 2004. Thermosensation and pain. *J. Neurobiol.* 61: 3-12.
3. Bandell, M., et al. 2004. Noxious cold ion channel TRPA1 is activated by pungent compounds and bradykinin. *Neuron* 41: 849-857.
4. Obata, K., et al. 2005. TRPA1 induced in sensory neurons contributes to cold hyperalgesia after inflammation and nerve injury. *J. Clin. Invest.* 115: 2393-2401.
5. McKemy, D.D., et al. 2005. How cold is it? TRPM8 and TRPA1 in the molecular logic of cold sensation. *Mol. Pain* 1: 16.
6. Nagata, K., et al. 2005. Nociceptor and hair cell transducer properties of TRPA1, a channel for pain and hearing. *J. Neurosci.* 25: 4052-4061.

## CHROMOSOMAL LOCATION

Genetic locus: TRPA1 (human) mapping to 8q13; Trpa1 (mouse) mapping to 1 A3.

## SOURCE

ANKTM1 (H-155) is a rabbit polyclonal antibody raised against amino acids 965-1119 mapping at the C-terminus of ANKTM1 of human origin.

## PRODUCT

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

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

ANKTM1 (H-155) is recommended for detection of ANKTM1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Suitable for use as control antibody for ANKTM1 siRNA (h): sc-44780, ANKTM1 siRNA (m): sc-44781, ANKTM1 shRNA Plasmid (h): sc-44780-SH, ANKTM1 shRNA Plasmid (m): sc-44781-SH, ANKTM1 shRNA (h) Lentiviral Particles: sc-44780-V and ANKTM1 shRNA (m) Lentiviral Particles: sc-44781-V.

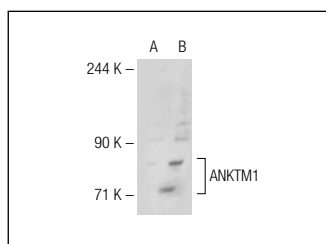
Molecular Weight of ANKTM1: 130 kDa.

Positive Controls: ANKTM1 (h): 293 Lysate: sc-127974, Hs68 cell lysate: sc-2230 or IMR-32 cell lysate: sc-2409.

## 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.

## DATA



ANKTM1 (H-155): sc-66808. Western blot analysis of ANKTM1 expression in non-transfected: sc-110760 (A) and human ANKTM1 transfected: sc-127974 (B) 293 whole cell lysates.

## RESEARCH USE

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

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Try **ANKTM1 (C-5): sc-376495** or **ANKTM1 (C-4): sc-166469**, our highly recommended monoclonal alternatives to ANKTM1 (H-155).