



ANKTM1 (h): 293 Lysate: sc-127974

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 8q13.3.

PRODUCT

ANKTM1 (h): 293 Lysate represents a lysate of human ANKTM1 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

ANKTM1 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive ANKTM1 antibodies. Recommended use: 10-20 µl per lane.

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.