SANTA CRUZ BIOTECHNOLOGY, INC.

ANKTM1 (C-5): sc-376495

SANTA CRUZ BIOTECHNOLOGY

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-trisphospate 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 (< 17° C), 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.

CHROMOSOMAL LOCATION

Genetic locus: TRPA1 (human) mapping to 8q13.3.

SOURCE

ANKTM1 (C-5) is a mouse monoclonal antibody raised against amino acids 965-1119 mapping at the C-terminus of ANKTM1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ANKTM1 (C-5) is available conjugated to agarose (sc-376495 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376495 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376495 PE), fluorescein (sc-376495 FITC), Alexa Fluor® 488 (sc-376495 AF488), Alexa Fluor® 546 (sc-376495 AF546), Alexa Fluor® 594 (sc-376495 AF594) or Alexa Fluor® 647 (sc-376495 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376495 AF680) or Alexa Fluor® 790 (sc-376495 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ANKTM1 (C-5) is recommended for detection of ANKTM1 of human origin by Western Blotting (starting dilution 1:100, 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 ANKTM1 siRNA (h): sc-44780, ANKTM1 shRNA Plasmid (h): sc-44780-SH and ANKTM1 shRNA (h) Lentiviral Particles: sc-44780-V.

Molecular Weight of ANKTM1: 130 kDa.

Positive Controls: WI-38 whole cell lysate: sc-364260, IMR-32 cell lysate: sc-2409 or HT-1080 whole cell lysate: sc-364183.

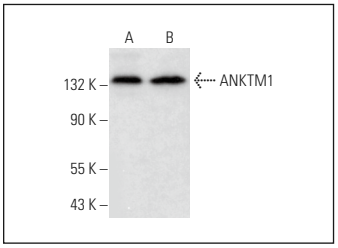
RESEARCH USE

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

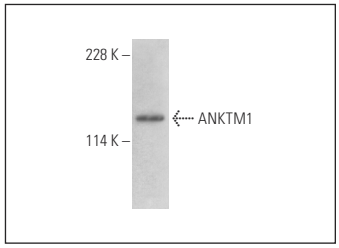
STORAGE

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

DATA



ANKTM1 (C-5): sc-376495. Western blot analysis of ANKTM1 expression in WI-38 (**A**) and HT-1080 (**B**) whole cell lysates.



ANKTM1 (C-5) HRP: sc-376495 HRP. Direct western blot analysis of ANKTM1 expression in IMR-32 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Virk, H.S., et al. 2019. Validation of antibodies for the specific detection of human TRPA1. Sci. Rep. 9: 18500.
2. Cojocaru, F., et al. 2021. Functional expression of the transient receptor potential ankyrin type 1 channel in pancreatic adenocarcinoma cells. Sci. Rep. 11: 2018.
3. Manneck, D., et al. 2021. The TRPA1 agonist cinnamaldehyde induces the secretion of HCO_3^- by the porcine colon. Int. J. Mol. Sci. 22: 5198.
4. Xie, A.X., et al. 2022. Pharmacogenetic inhibition of lumbosacral sensory neurons alleviates visceral hypersensitivity in a mouse model of chronic pelvic pain. PLoS ONE 17: e0262769.
5. Duque, M., et al. 2022. Sonogenetic control of mammalian cells using exogenous transient receptor potential A1 channels. Nat. Commun. 13: 600.
6. Iguchi, N., et al. 2022. Sexual dimorphic impacts of systemic vincristine on lower urinary tract function. Sci. Rep. 12: 5113.
7. Wu, W., et al. 2023. TRPA1 promotes UVB-induced skin pigmentation by regulating melanosome luminal pH. Exp. Dermatol. 32: 165-176.
8. Müller-Dott, K., et al. 2022. Isolation of human TRPA1 channel from transfected HEK293 cells and identification of alkylation sites after sulfur mustard exposure. Arch. Toxicol. 97: 429-439.
9. Piciu, F., et al. 2024. Transient receptor potential ankyrin 1 (TRPA1) modulation by 4-hydroxynonenal (4-HNE) in pancreatic adenocarcinoma cell lines: putative roles for therapies. Pharmaceuticals 17: 344.

PROTOCOLS

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