

# TRAAK (C-13): sc-11324

## BACKGROUND

K<sup>+</sup> channels are divided into three subclasses, reflecting the number of trans-membrane segments (TMS), which are designated 6TMS, 4TMS, and 2TMS. Members of the 4TMS class contain two distinct pore regions, and include TWIK-1, TREK-1, TRAAK, TASK, TASK-2 and TASK-3. TRAAK is selectively expressed in the neuronal tissues of brain, spinal cord, and retina. TRAAK is activated by arachidonic acid, and other unsaturated fatty acids, but not by saturated fatty acids. TRAAK produces baseline K<sup>+</sup> currents, which are strongly stimulated by mechanical stretch and insensitive to K<sup>+</sup> channel blockers.

## REFERENCES

1. Fink, M., et al. 1996. Cloning, functional expression and brain localization of a novel unconventional outward rectifier K<sup>+</sup> channel. *EMBO J.* 15: 6854-6862.
2. Duprat, F., et al. 1997. TASK, a human background K<sup>+</sup> channel to sense external pH variations near physiological pH. *EMBO J.* 16: 5464-5471.
3. Fink, M., et al. 1998. A neuronal two P domain K<sup>+</sup> channel stimulated by arachidonic acid and polyunsaturated fatty acids. *EMBO J.* 17: 3297-3308.
4. Cluzeaud, F., et al. 1998. Expression of TWIK-1, a novel weakly inward rectifying potassium channel in rat kidney. *Am. J. Physiol.* 275: 1602-1609.
5. Maingret, F., et al. 1999. TRAAK is a mammalian neuronal mechano-gated K<sup>+</sup> channel. *J. Biol. Chem.* 274: 1381-1387.
6. Lesage, F., et al. 2000. Cloning and expression of human TRAAK, a polyunsaturated fatty acids-activated and mechano-sensitive K<sup>+</sup> channel. *FEBS Lett.* 471: 137-140.
7. Reyes, R., et al. 2000. Immunolocalization of the arachidonic acid and mechano-sensitive baseline traak potassium channel in the nervous system. *Neuroscience* 95: 893-901.

## CHROMOSOMAL LOCATION

Genetic locus: KCNK4 (human) mapping to 11q13; Kcnk4 (mouse) mapping to 19 A.

## SOURCE

TRAAK (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of TRAAK of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11324 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

TRAAK (C-13) is recommended for detection of TRAAK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 TRAAK siRNA (h): sc-42345, TRAAK siRNA (m): sc-42346, TRAAK shRNA Plasmid (h): sc-42345-SH, TRAAK shRNA Plasmid (m): sc-42346-SH, TRAAK shRNA (h) Lentiviral Particles: sc-42345-V and TRAAK shRNA (m) Lentiviral Particles: sc-42346-V.

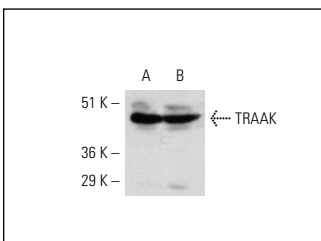
Molecular Weight of TRAAK: 47 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or Y79 cell lysate: sc-2240.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



TRAAK (C-13): sc-11324. Western blot analysis of TRAAK expression in IMR-32 (A) and Y79 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Wechselberger, M., et al. 2006. Ionic channels and conductance-based models for hypothalamic neuronal thermosensitivity. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 291: R518-R529.
2. Linke, B., et al. 2009. Toponomics analysis of drug-induced changes in arachidonic acid-dependent signaling pathways during spinal nociceptive processing. *J. Proteome Res.* 8: 4851-4859.

## RESEARCH USE

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