

TREK-2 (E-19): sc-69641

BACKGROUND

TREK-1 (also designated TWIK-related K⁺ channel) and TREK-2 are members of the tandem-pore K⁺ channel family and belong to the class of mechanosensitive and fatty acid-stimulated K⁺ channels. TREK-1 has an outwardly rectifying current-voltage relationship, while TREK-2 shows inward rectification. Both TREK-1 and TREK-2 are activated by arachidonic acid and other naturally occurring unsaturated free fatty acids. These family members possess two pore-forming domains and four transmembrane segments. TREK-2 is a 538 amino acid protein and shares 65% amino acid sequence identity with TREK-1. TREK-1 is expressed in many different tissues, particularly lung and brain, while TREK-2 is expressed mainly in the cerebellum, spleen and testis.

REFERENCES

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2. Jan, L.Y. and Jan, Y.N. 1994. Potassium channels and their evolving gates. *Nature* 371: 119-122.
3. Fink, M., Duprat, F., Lesage, F., Reyes, R., Romey, G., Heurteaux, C. and Lazdunski, M. 1996. Cloning, functional expression and brain localization of a novel unconventional outward rectifier K⁺ channel. *EMBO J.* 15: 6854-6862.
4. Wei, A., Jegla, T. and Salkoff, L. 1996. Eight potassium channel families revealed by the *C. elegans* genome project. *Neuropharmacology* 35: 805-829.
5. Patel, A.J., Honore, E., Maingret, F., Lesage, F., Fink, M., Duprat, F. and Lazdunski, M. 1998. A mammalian two pore domain mechano-gated S-like K⁺ channel. *EMBO J.* 17: 4283-4290.
6. Maingret, F., Fosset, M., Lesage, F., Lazdunski, M. and Honore, E. 1999. TRAAK is a mammalian neuronal mechano-gated K⁺ channel. *J. Biol. Chem.* 274: 1381-1387.
7. Bang, H., Kim, Y. and Kim, D. 2000. TREK-2, a new member of the mechanosensitive tandem-pore K⁺ channel family. *J. Biol. Chem.* 275: 17412-17419.

CHROMOSOMAL LOCATION

Genetic locus: KCNK10 (human) mapping to 14q31.3; Kcnk10 (mouse) mapping to 12 E.

SOURCE

TREK-2 (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TREK-2 of human origin.

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 or our catalog for detailed protocols and support products.

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-69641 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TREK-2 (E-19) is recommended for detection of TREK-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

TREK-2 (E-19) is also recommended for detection of TREK-2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TREK-2 siRNA (h): sc-42347, TREK-2 siRNA (m): sc-42348, TREK-2 shRNA Plasmid (h): sc-42347-SH, TREK-2 shRNA Plasmid (m): sc-42348-SH, TREK-2 shRNA (h) Lentiviral Particles: sc-42347-V and TREK-2 shRNA (m) Lentiviral Particles: sc-42348-V.

Molecular Weight (predicted) of TREK-2: 60 kDa.

Molecular Weight (observed) of TREK-2: 56 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

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) 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.

RESEARCH USE

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