SANTA CRUZ BIOTECHNOLOGY, INC.

TREK-2 (A-20): sc-11559

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 mechano-sensitive 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

1. Pongs, O. 1992. Molecular biology of voltage-dependent potassium channels. Physiol. Rev. 72: 569-588.
2. Jan, L.Y., et al. 1994. Potassium channels and their evolving gates. Nature 371: 119-122.
3. Wei, A., et al. 1996. Eight potassium channel families revealed by the *C. elegans* genome project. Neuropharmacology 35: 805-829.

CHROMOSOMAL LOCATION

Genetic locus: Kcnk10 (mouse) mapping to 12 E.

SOURCE

TREK-2 (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TREK-2 of rat 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-11559 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TREK-2 (A-20) is recommended for detection of TREK-2 of mouse and rat 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).

TREK-2 (A-20) is also recommended for detection of TREK-2 in additional species, including equine, canine and porcine.

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

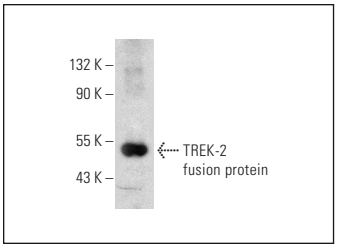
Molecular Weight (predicted) of TREK-2: 60 kDa.

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

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



TREK-2 (A-20): sc-11559. Western blot analysis of human recombinant TREK-2 fusion protein.

SELECT PRODUCT CITATIONS

1. Xiao, Z., et al. 2009. Noradrenergic depression of neuronal excitability in the entorhinal cortex via activation of TREK-2 K^+ channels. J. Biol. Chem. 284: 10980-10991.
2. Deng, P.Y., et al. 2009. $GABA_B$ receptor activation inhibits neuronal excitability and spatial learning in the entorhinal cortex by activating TREK-2 K^+ channels. Neuron 63: 230-243.
3. 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.

STORAGE

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

RESEARCH USE

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