SANTA CRUZ BIOTECHNOLOGY, INC.

TREK-2 (S-14): sc-11560

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.

CHROMOSOMAL LOCATION

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

SOURCE

TREK-2 (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-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-11560 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

TREK-2 (S-14) 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), 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 (S-14) 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 (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.

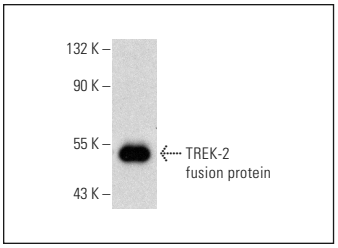
Molecular Weight (observed) of TREK-2: 56 kDa.

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) 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 (S-14): sc-11560. Western blot analysis of human recombinant TREK-2 fusion protein.

SELECT PRODUCT CITATIONS

1. Bryan, R.M., et al. 2006. Evidence for two-pore domain potassium channels in rat cerebral arteries. Am. J. Physiol. Heart Circ. Physiol. 291: H770-H780.
2. Yamamoto, Y., et al. 2009. Immunohistochemical colocalization of TREK-1, TREK-2 and TRAAK with TRP channels in the trigeminal ganglion cells. Neurosci. Lett. 454: 129-133.
3. 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.
4. Cadaveira-Mosquera, A., et al. 2011. Activation of TREK currents by the neuroprotective agent riluzole in mouse sympathetic neurons. J. Neurosci. 31: 1375-1385.
5. Cadaveira-Mosquera, A., et al. 2012. Expression of K2P channels in sensory and motor neurons of the autonomic nervous system. J. Mol. Neurosci. 48: 86-96.

RESEARCH USE

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