SANTA CRUZ BIOTECHNOLOGY, INC.

TREK-1 (H-75): sc-50412

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: KCNK2 (human) mapping to 1q41; Kcnk2 (mouse) mapping to 1 H6.

SOURCE

TREK-1 (H-75) is a rabbit polyclonal antibody raised against amino acids 352-426 mapping within a C-terminal cytoplasmic domain of TREK-1 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.

STORAGE

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

APPLICATIONS

TREK-1 (H-75) is recommended for detection of TREK-1 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-1 (H-75) is also recommended for detection of TREK-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TREK-1 siRNA (h): sc-37180, TREK-1 siRNA (m): sc-37181, TREK-1 shRNA Plasmid (h): sc-37180-SH, TREK-1 shRNA Plasmid (m): sc-37181-SH, TREK-1 shRNA (h) Lentiviral Particles: sc-37180-V and TREK-1 shRNA (m) Lentiviral Particles: sc-37181-V.

Molecular Weight of TREK-1 monomer: 45-56 kDa.

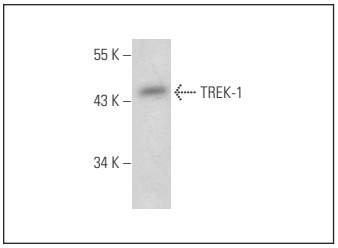
Molecular Weight of glycosylated TREK-1 homodimer: 99-112 kDa.

Positive Controls: mouse brain extract: sc-2253, Caki-1 cell lysate: sc-2224 or rat hypothalamus extract: sc-395022.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TREK-1 (H-75): sc-50412. Western blot analysis of TREK-1 expression in Caki-1 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Kim, E., et al. 2010. Enhancement of TREK1 channel surface expression by protein-protein interaction with β-COP. Biochem. Biophys. Res. Commun. 395: 244-250.
2. Moha ou Maati, H., et al. 2011. A human TREK-1/HEK cell line: a highly efficient screening tool for drug development in neurological diseases. PLoS ONE 6: e25602.
3. Eckert, M., et al. 2011. TREK-1 isoforms generated by alternative translation initiation display different susceptibility to the antidepressant fluoxetine. Neuropharmacology 61: 918-923.
4. Rajagopal, A., et al. 2015. Proteome of the Insulin-secreting Min6 cell porosome complex: involvement of Hsp90 in its assembly and function. J. Proteomics 114: 83-92.

RESEARCH USE

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