SANTA CRUZ BIOTECHNOLOGY, INC.

TREK-1 (C-20): sc-11557

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.
4. Fink, M., et al. 1996. Cloning, functional expression and brain localization of a novel unconventional outward rectifier K^+ channel. EMBO J. 15: 6854-6862.
5. Patel, A.J., et al. 1998. A mammalian two pore domain mechano-gated S-like K^+ channel. EMBO J. 17: 4283-4290.
6. Maingret, F., et al. 1999. TRAAK is a mammalian neuronal mechano-gated K^+ channel. J. Biol. Chem. 274: 1381-1387.

CHROMOSOMAL LOCATION

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

SOURCE

TREK-1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus 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.

Blocking peptide available for competition studies, sc-11557 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.

RESEARCH USE

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

APPLICATIONS

TREK-1 (C-20) 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), immunohistochemistry (including paraffin-embedded sections) (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 (C-20) is also recommended for detection of TREK-1 in additional species, including equine, canine, bovine, porcine and avian.

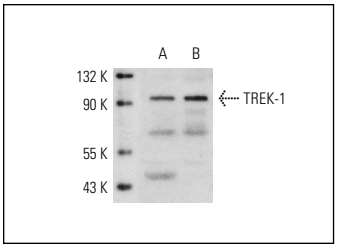
Suitable for use as control antibody for TREK-1 siRNA (h): sc-37180, TREK-1 siRNA (m): sc-37181, TREK-1 shRNA Plasmid (h): sc-37180-SH, TREK-1 shRNA Plasmid (m): sc-37181-SH, TREK-1 shRNA (h) Lentiviral Particles: sc-37180-V and TREK-1 shRNA (m) Lentiviral Particles: sc-37181-V and .

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

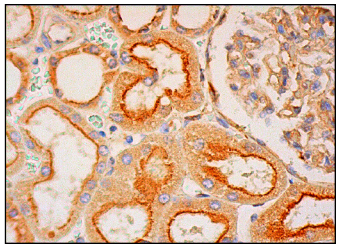
Molecular Weight of glycosylated TREK-1 homodimer: 99-112 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat hypothalamus extract: sc-395022.

DATA



TREK-1 (C-20): sc-11557. Western blot analysis of TREK-1 expression in rat hypothalamus (**A**) and mouse brain (**B**) tissue extracts.



TREK-1 (C-20): sc-11557. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane and cytoplasmic staining of cells in glomeruli and apical membrane and cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Azzalin, A., et al. 2006. Interaction between the cellular prion (PrPC) and the 2P domain K^+ channel TREK-1 protein. Biochem. Biophys. Res. Commun. 346: 108-115.
2. Namiranian, K., et al. 2010. Cerebrovascular responses in mice deficient in the potassium channel, TREK-1. Am. J. Physiol. Regul. Integr. Comp. Physiol. 299: R461-R469.

MONOS Satisfaction Guaranteed

Try **TREK-1 (F-6): sc-398449**, our highly recommended monoclonal alternative to TREK-1 (C-20).