SANTA CRUZ BIOTECHNOLOGY, INC.

TREK-2 (1C1): sc-293332

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. and Jan, Y.N. 1994. Potassium channels and their evolving gates. Nature 371: 119-122.
3. Fink, M., et al. 1996. Cloning, functional expression and brain localization of a novel unconventional outward rectifier K^+ channel. EMBO J. 15: 6854-6862.
4. Wei, A., et al. 1996. Eight potassium channel families revealed by the *C. elegans* genome project. Neuropharmacology 35: 805-829.
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.
7. Bang, H., et al. 2000. TREK-2, a new member of the mech-anosensitive tandem-pore K^+ channel family. J. Biol. Chem. 275: 17412-17419.

CHROMOSOMAL LOCATION

Genetic locus: KCNK10 (human) mapping to 14q31.3.

SOURCE

TREK-2 (1C1) is a mouse monoclonal antibody raised against amino acids 439-538 of TREK-2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

TREK-2 (1C1) is recommended for detection of TREK-2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

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

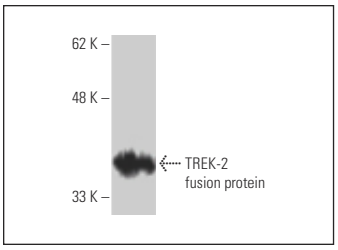
Molecular Weight (observed) of TREK-2: 56 kDa.

Positive Controls: human kidney extract: sc-363764.

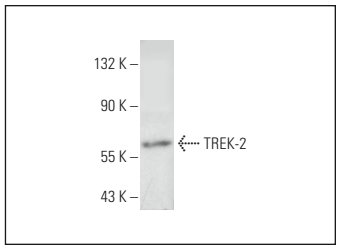
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



TREK-2 (1C1): sc-293332. Western blot analysis of human recombinant TREK-2 fusion protein.



TREK-2 (1C1): sc-293332. Western blot analysis of TREK-2 expression in human kidney tissue extract.

SELECT PRODUCT CITATIONS

1. Canella, R., et al. 2019. Involvement of the TREK-1 channel in human alveolar cell membrane potential and its regulation by inhibitors of the chloride current. J. Cell. Physiol. 234: 17704-17713.

RESEARCH USE

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