SANTA CRUZ BIOTECHNOLOGY, INC.

TRESK (E-2): sc-514525

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Potassium channels play an important role in cell excitability and plasticity. The pore loop domain, a highly conserved region common to all potassium channels, is involved in determining potassium ion selectivity. The family of potassium channels possessing two-pore loop domains consists of both inward and outwardly rectifying channels and includes THIK-1, THIK-2, TRESK, TALK-1 and TALK-2. Members of this family are all characterized by four transmembrane domains and may function to help influence the resting membrane potential of cells. TWIK-related spinal cord K^+ (TRESK) is the most sensitive volatile anesthetic-activated channel in the family and may function to mediate the effects of inhaled anesthetics in the central nervous system in a manner that is sensitive to immunosuppressive drugs. TRESK is activated by the calcium signal from calcineurin, a calcium/calmodulin-dependent phosphatase, and is highly sensitive to zinc.

REFERENCES

1. Czirják, G., et al. 2004. The two-pore domain K^+ channel, TRESK, is activated by the cytoplasmic calcium signal through calcineurin. J. Biol. Chem. 279: 18550-18558.
2. Kang, D., et al. 2004. Functional expression of TRESK-2, a new member of the tandem-pore K^+ channel family. J. Biol. Chem. 279: 28063-28070.
3. Liu, C., et al. 2004. Potent activation of concentrations of volatile anesthetics. Anesth. Analg. 99: 1715-1722.
4. Kang, D., et al. 2005. Thermosensitivity of the two-pore domain K^+ channels TREK-2 and TRAAK. J. Physiol. 564: 103-116.
5. Keshavaprasad, B., et al. 2005. Species-specific differences in response to anesthetics and other modulators by the K2P channel TRESK. Anesth. Analg. 101: 1042-1049.

CHROMOSOMAL LOCATION

Genetic locus: Kcnk18 (mouse) mapping to 19 D3.

SOURCE

TRESK (E-2) is a mouse monoclonal antibody raised against amino acids 1-48 mapping at the N-terminus of TRESK of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TRESK (E-2) is available conjugated to agarose (sc-514525 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514525 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514525 PE), fluorescein (sc-514525 FITC), Alexa Fluor® 488 (sc-514525 AF488), Alexa Fluor® 546 (sc-514525 AF546), Alexa Fluor® 594 (sc-514525 AF594) or Alexa Fluor® 647 (sc-514525 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514525 AF680) or Alexa Fluor® 790 (sc-514525 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TRESK (E-2) is recommended for detection of TRESK of mouse origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for TRESK siRNA (m): sc-61710, TRESK shRNA Plasmid (m): sc-61710-SH and TRESK shRNA (m) Lentiviral Particles: sc-61710-V.

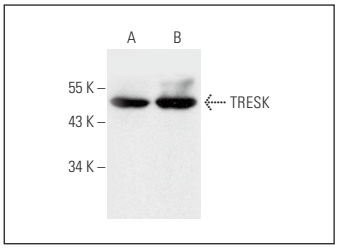
Molecular Weight of TRESK: 43 kDa.

Positive Controls: mouse spinal cord extract: sc-395045, mouse heart extract: sc-2254 or mouse hypothalamus extract: sc-364242.

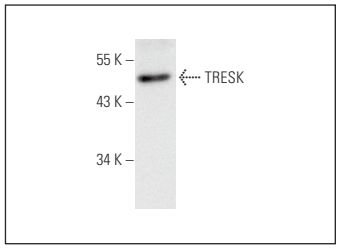
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



TRESK (E-2): sc-514525. Western blot analysis of TRESK expression in mouse spinal cord (**A**) and mouse hypothalamus (**B**) tissue extracts.



TRESK (E-2): sc-514525. Western blot analysis of TRESK expression in mouse heart tissue extract.

SELECT PRODUCT CITATIONS

1. Ruck, T., et al. 2022. K_{2P}18.1 translates T cell receptor signals into thymic regulatory T cell development. Cell Res. 32: 72-88.

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.