



TRESK (h): 293T Lysate: sc-158006

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.
6. Brosnan, R., et al. 2006. Chirality in anesthesia II: stereoselective modulation of ion channel function by secondary alcohol enantiomers. *Anesth. Analg.* 103: 86-91.
7. Czirják, G. and Enyedi, P. 2006. Targeting of calcineurin to an NFAT-like docking site is required for the calcium-dependent activation of the background K⁺ channel, TRESK. *J. Biol. Chem.* 281: 14677-14682.
8. Czirják, G. and Enyedi, P. 2006. Zinc and mercuric ions distinguish TRESK from the other two-pore-domain K⁺ channels. *Mol. Pharmacol.* 69: 1024-1032.
9. Kang, D. and Kim, D. 2006. TREK-2 (K2P10.1) and TRESK (K2P18.1) are major background K⁺ channels in dorsal root ganglion neurons. *Am. J. Physiol., Cell Physiol.* 291: 138-146.

CHROMOSOMAL LOCATION

Genetic locus: KCNK18 (human) mapping to 10q25.3.

PRODUCT

TRESK (h): 293T Lysate represents a lysate of human TRESK transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

TRESK (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive TRESK antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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