SANTA CRUZ BIOTECHNOLOGY, INC.

THIK-1 (Z-21): sc-134086

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 halothane-inhibited K^+ 1 (THIK-1) is a 405 amino acid protein that localizes to the outer membrane and is abundantly expressed in the central nervous system. THIK-1 has a strong sensitivity to oxygen and may play a physiological and/or pathological role during brain ischemia.

REFERENCES

1. Rajan, S., et al. 2001. THIK-1 and THIK-2, a novel subfamily of tandem pore domain K^+ channels. J. Biol. Chem. 276: 7302-7311.
2. Bushell, T., et al. 2002. Pharmacological characterization of a non-inactivating outward current observed in mouse cerebellar purkinje neurones. Br. J. Pharmacol. 135: 705-712.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607367. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Gardener, M.J., et al. 2004. Functional evidence of a role for two-pore domain potassium channels in rat mesenteric and pulmonary arteries. Br. J. Pharmacol. 142: 192-202.
5. Jezzini, S.H., et al. 2004. Identification and distribution of a two-pore domain potassium channel in the CNS of *Aplysia californica*. Brain Res. Mol. Brain Res. 127: 27-38.
6. Campanucci, V.A., et al. 2005. O_2 sensing by recombinant TWIK-related halothane-inhibitable K^+ channel-1 background K^+ channels heterologously expressed in human embryonic kidney cells. Neuroscience 135: 1087-1094.
7. Bryan, R.M., et al. 2006. Evidence for two-pore domain potassium channels in rat cerebral arteries. Am. J. Physiol. Heart Circ. Physiol. 291: H770-780.
8. Czirják, G., et al. 2006. Zinc and mercuric ions distinguish TRESK from the other two-pore-domain K^+ channels. Mol. Pharmacol. 69: 1024-1032.

CHROMOSOMAL LOCATION

Genetic locus: KCNK13 (human) mapping to 14q32.11.

SOURCE

THIK-1 (Z-21) is an affinity purified rabbit polyclonal antibody raised against synthetic THIK-1 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

THIK-1 (Z-21) is recommended for detection of THIK-1 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)], 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).

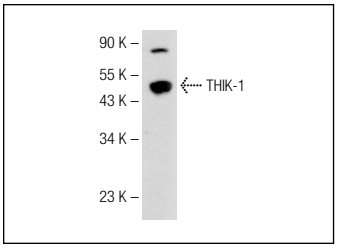
Suitable for use as control antibody for THIK-1 siRNA (h): sc-61680, THIK-1 shRNA Plasmid (h): sc-61680-SH and THIK-1 shRNA (h) Lentiviral Particles: sc-61680-V.

Molecular Weight of THIK-1: 45 kDa.

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



THIK-1 (Z-21): sc-134086. Western blot analysis of THIK-1 expression in IMR-32 whole cell lysate.

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.

PROTOCOLS

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