

THIK-1 (Y-18): sc-51232

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 trans-membrane 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., Wischmeyer, E., Karschin, C., Preisig-Müller, R., Grzeschik, K.H., Daut, J., Karschin, A. and Derst, C. 2001. THIK-1 and THIK-2, a novel sub-family of tandem pore domain K⁺ channels. *J. Biol. Chem.* 276: 7302-7311.
2. Bushell, T., Clarke, C., Mathie, A. and Robertson, B. 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., Johnson, I.T., Burnham, M.P., Edwards, G., Heagerty, A.M. and Weston, A.H. 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. and Moroz, L.L. 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., Brown, S.T., Hudasek, K., O'Kelly, I.M., Nurse, C.A. and Fearon, I.M. 2005. O₂ sensing by recombinant TWIK-related halothane-inhibitable K⁺ channel-1 background K⁺ channels heterologously expressed in human embryonic kidney cells. *Neuroscience* 135: 1087-1094.

CHROMOSOMAL LOCATION

Genetic locus: KCNK13 (human) mapping to 14q32.11; Kcnk13 (mouse) mapping to 12 E.

SOURCE

THIK-1 (Y-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of THIK-1 of mouse 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-51232 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

THIK-1 (Y-18) is recommended for detection of THIK-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) 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 siRNA (m): sc-61681, THIK-1 shRNA Plasmid (h): sc-61680-SH, THIK-1 shRNA Plasmid (m): sc-61681-SH, THIK-1 shRNA (h) Lentiviral Particles: sc-61680-V and THIK-1 shRNA (m) Lentiviral Particles: sc-61681-V.

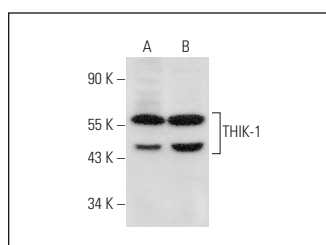
Molecular Weight of THIK-1: 45 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



THIK-1 (Y-18): sc-51232. Western blot analysis of THIK-1 expression in IMR-32 (A) and Jurkat (B) whole cell lysates.

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.