SANTA CRUZ BIOTECHNOLOGY, INC.

TASK-1 (H-50): sc-28635

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

K^+ channels are divided into three subclasses reflecting the number of transmembrane segments (TMS), which are designated 6TMS, 4TMS and 2TMS. Members of the 4TMS class contain two distinct pore regions and include TWIK, TREK, TRAAK and TASK. TASK channels are highly sensitive to external pH in the physiological range. TASK-1 is expressed in brain and in rat heart, with high levels of expression in the right atrium. TASK-2, mainly expressed in kidney, is localized in cortical distal tubules and collecting ducts, suggesting a role in renal K^+ transport. TASK-3 from rat cerebellum shares 54% identity with TASK-1, but less than 30% identity with TASK-2 and other tandem pore K^+ channels.

REFERENCES

1. Fink, M., et al. 1996. Cloning, functional expression and brain localization of a novel unconventional outward rectifier K^+ channel. EMBO J. 15: 6854-6862.
2. Duprat, F., et al. 1997. TASK, a human background K^+ channel to sense external pH variations near physiological pH. EMBO J. 16: 5464-5471.
3. Cluzeaud, F., et al. 1998. Expression of TWIK-1, a novel weakly inward rectifying potassium channel in rat kidney. Am. J. Physiol. 275: C1602-1609.
4. Fink, M., et al. 1998. A neuronal two P domain K^+ channel stimulated by arachidonic acid and polyunsaturated fatty acids. EMBO J. 17: 3297-3308.
5. Reyes, R., et al. 1998. Cloning and expression of a novel pH-sensitive two pore domain K^+ channel from human kidney. J. Biol. Chem. 273: 30863-30869.
6. Kim, Y., et al. 1999. TBAK-1 and TASK-1, two pore K^+ channel subunits: kinetic properties and expression in rat heart. Am. J. Physiol. 277: H1669-1678.
7. Millar, J.A., et al. 2000. A functional role for the two pore domain potassium channel TASK-1 in cerebellar granule neurons. Proc. Natl. Acad. Sci. USA 97: 3614-3618.
8. Kim, Y., et al. 2000. TASK-3, a new member of the tandem pore K^+ channel family. J. Biol. Chem. 275: 9340-9347.

CHROMOSOMAL LOCATION

Genetic locus: KCNK3 (human) mapping to 2p23.3; Kcnk3 (mouse) mapping to 5 B1.

SOURCE

TASK-1 (H-50) is a rabbit polyclonal antibody raised against amino acids 295-344 mapping within a C-terminal cytoplasmic domain of TASK-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TASK-1 (H-50) is recommended for detection of TASK-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).

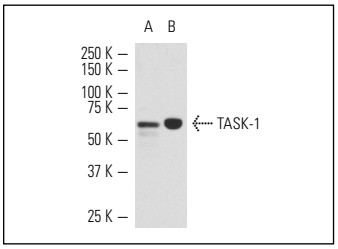
TASK-1 (H-50) is also recommended for detection of TASK-1 in additional species, including canine, bovine and avian.

Suitable for use as control antibody for TASK-1 siRNA (h): sc-42339, TASK-1 siRNA (m): sc-42340, TASK-1 shRNA Plasmid (h): sc-42339-SH, TASK-1 shRNA Plasmid (m): sc-42340-SH, TASK-1 shRNA (h) Lentiviral Particles: sc-42339-V and TASK-1 shRNA (m) Lentiviral Particles: sc-42340-V.

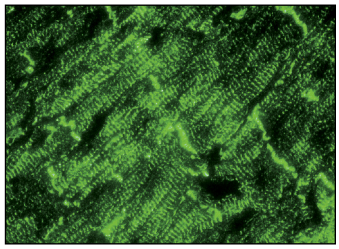
Molecular Weight of TASK-1: 45-65 kDa.

Positive Controls: rat placenta tissue rxtract, MIA PaCa-2 whole cell lysate or JAR cell lysate: sc-2276.

DATA



TASK-1 (H-50): sc-28635. Western blot analysis of TASK-1 expression in MIA PaCa-2 whole cell lysate (**A**) and rat placenta tissue extract (**B**).



TASK-1 (H-50): sc-28635. Immunofluorescence staining of normal mouse heart frozen section showing membrane staining.

SELECT PRODUCT CITATIONS

1. Inoue, M., et al. 2008. Inhibition of TASK-1-like channels by muscarinic receptor stimulation in rat adrenal medullary cells. J. Neurochem. 106: 1804-1814.

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.