SANTA CRUZ BIOTECHNOLOGY, INC.

PSK2 (T-25): sc-130857

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. PSK2 (prostate-derived Ste20-like kinase 2), also known as TAO1 (thousand and one amino acid protein 1), TAOK1 (TAO kinase 1), hKFC-B (kinase from chicken homolog B), MARKK or MAP3K16, is a member of the Ser/Thr protein kinase family and belongs to the GCK-like class of Ste20-like kinases. Expressed at high levels in testis and at lower levels in placenta, colon, brain and skeletal muscle, PSK2 localizes to the cytoplasm and phosphorylates MEK-3, thereby activating the p38 MAP kinase pathway. In addition, PSK2 is capable of activating JNK and inducing JNK-dependent morphological changes that lead to apoptosis. Upon activation of caspases, PSK2 is cleaved by caspase-3.

REFERENCES

1. Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XVI. The complete sequences of 150 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 65-73.
2. Berman, K.S., et al. 2001. Kin-18, a *C. elegans* protein kinase involved in feeding. Gene 279: 137-147.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610266. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Timm, T., et al. 2003. MARKK, a Ste20-like kinase, activates the polarity-inducing kinase MARK/PAR-1. EMBO J. 22: 5090-5101.
5. Zihni, C., et al. 2006. Prostate-derived sterile 20-like kinase 2 (PSK2) regulates apoptotic morphology via C-Jun N-terminal kinase and Rho kinase-1. J. Biol. Chem. 281: 7317-7323.
6. Mansouri, M.R., et al. 2006. Molecular genetic analysis of a *de novo* balanced translocation t(6;17)(p21.31;q11.2) associated with hypospadias and anorectal malformation. Hum. Genet. 119: 162-168.
7. Draviam, V.M., et al. 2007. A functional genomic screen identifies a role for TAO1 kinase in spindle-checkpoint signalling. Nat. Cell Biol. 9: 556-564.

CHROMOSOMAL LOCATION

Genetic locus: TAOK1 (human) mapping to 17q11.2; Taok1 (mouse) mapping to 11 B5.

SOURCE

PSK2 (T-25) is a purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of PSK2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PSK2 (T-25) is recommended for detection of PSK2 of mouse 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PSK2 siRNA (h): sc-76267, PSK2 siRNA (m): sc-76268, PSK2 shRNA Plasmid (h): sc-76267-SH, PSK2 shRNA Plasmid (m): sc-76268-SH, PSK2 shRNA (h) Lentiviral Particles: sc-76267-V and PSK2 shRNA (m) Lentiviral Particles: sc-76268-V.

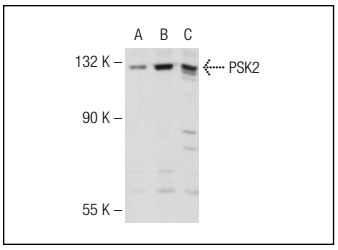
Molecular Weight of PSK2: 150 kDa.

Positive Controls: mouse brain extract: sc-2253, HeLa whole cell lysate: sc-2200 or PSK2 (m): 293T Lysate: sc-125863.

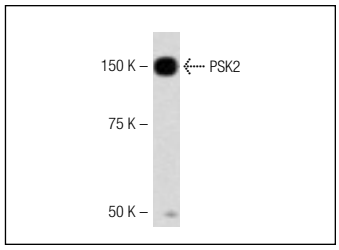
RECOMMENDED SECONDARY REAGENTS

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).

DATA



PSK2 (T-25): sc-130857. Western blot analysis of PSK2 expression in non-transfected 293T: sc-117752 (**A**), mouse PSK2 transfected 293T: sc-125863 (**B**) and HeLa (**C**) whole cell lysates.



PSK2 (T-25): sc-130857. Western blot analysis of PSK2 expression in mouse brain tissue extract.

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.