

PBK (31): sc-136026

BACKGROUND

Protein kinases comprise a large group of encoded factors that regulate cellular processes by catalyzing the transfer of a phosphate group to a hydroxyl acceptor in serine, threonine or tyrosine residues. Kinases are capable of influencing the oncogenic potential of cell systems at the level of oncoprotein or tumor suppressor protein phosphorylation states. Human PDZ-binding kinase, known as PBK, is a 322 amino acid, T/SXV motif-containing serine/threonine kinase that is abundant in placenta and absent from adult brain tissue. A PDZ domain in the tumor suppressor protein Dlg can coordinate with the T/SXV motif of PBK. The cell cycle checkpoint kinase Cdc2/cyclin B is an upstream effector of PBK that can phosphorylate and activate PBK. Active PBK may associate with PDZ-containing proteins and influence cell cycle control or cellular proliferation.

REFERENCES

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- Abe, Y., et al. 2000. Cloning and expression of a novel MAPKK-like protein kinase, lymphokine-activated killer T-cell-originated protein kinase, specifically expressed in the testis and activated lymphoid cells. *J. Biol. Chem.* 275: 21525-21531.
- Zhao, S., et al. 2001. PDZ-binding kinase participates in spermatogenesis. *Int. J. Biochem. Cell Biol.* 33: 631-636.
- Dougherty, J.D., et al. 2005. PBK/TOPK, a proliferating neural progenitor-specific mitogen-activated protein kinase kinase. *J. Neurosci.* 25: 10773-10785.
- Nandi, A.K., et al. 2007. Attenuation of DNA damage checkpoint by PBK, a novel mitotic kinase, involves protein-protein interaction with tumor suppressor p53. *Biochem. Biophys. Res. Commun.* 358: 181-188.

CHROMOSOMAL LOCATION

Genetic locus: PBK (human) mapping to 8p21.1; Pbk (mouse) mapping to 14 D1.

SOURCE

PBK (31) is a mouse monoclonal antibody raised against amino acids 191-322 of PBK of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2b} in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

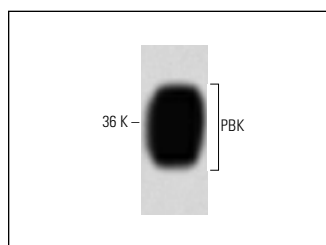
PBK (31) is recommended for detection of PBK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for PBK siRNA (h): sc-106892, PBK siRNA (m): sc-152042, PBK shRNA Plasmid (h): sc-106892-SH, PBK shRNA Plasmid (m): sc-152042-SH, PBK shRNA (h) Lentiviral Particles: sc-106892-V and PBK shRNA (m) Lentiviral Particles: sc-152042-V.

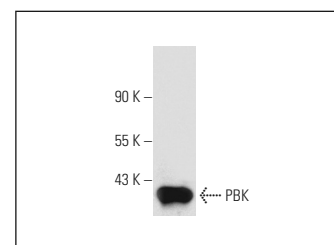
Molecular Weight of PBK: 36 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, A-431 whole cell lysate: sc-2201 or human skeletal muscle extract: sc-363776.

DATA



PBK (31): sc-136026. Western blot analysis of PBK expression in Jurkat whole cell lysate.



PBK (31): sc-136026. Western blot analysis of PBK expression in A-431 whole cell lysate.

SELECT PRODUCT CITATIONS

- Su, T.C., et al. 2018. Cytoplasmic, nuclear, and total PBK/TOPK expression is associated with prognosis in colorectal cancer patients: a retrospective analysis based on immunohistochemistry stain of tissue microarrays. *PLoS ONE* 13: e0204866.
- Nagano-Matsuo, A., et al. 2021. PBK expression predicts favorable survival in colorectal cancer patients. *Virchows Arch.* 479: 277-284.

RESEARCH USE

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

PROTOCOLS

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