Technical Data Sheet

Purified Mouse Anti-PBK

Product Information

Material Number:	**612171**
Size:	150 µg
Concentration:	250 µg/ml
Clone:	31/PBK
Immunogen:	Human PBK aa. 191-322
Isotype:	Mouse IgG2b
Reactivity:	QC Testing: Human Tested in Development: Mouse, Rat
Target MW:	41 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Mitogen activated protein (MAP) kinase signal transduction pathways mediate the effects of various extracellular stimuli on biological processes such as proliferation, differentiation, and death. The p38 MAP kinases are activated by dual phosphorylation on Thr and Tyr within the motif Thr-Gly-Tyr located in kinase subdomain VIII. Activation of p38 MAPK is mediated specifically by the MAP kinase kinases, MKK3 and MKK6. PBK is a PDZ-binding Ser-Thr kinase related to the MKK3/6 MAPKK family. PBK was also identified as T-LAK cell-originated protein kinase (TOPK) and spermatogenesis-related protein kinase (SPK). PBK contains the conserved dual specficity active site sequence (D-X-K-X-X-N) at amino acids 174 to 179, and a C-terminal ETDV motif that binds PDZ domains. The mRNA expression of PBK is reportedly highest in placenta, and lower in heart and pancreas. In mitotic cells, PBK is phosphorylated and enzymatically active, and in vitro, PBK is phosphorylated by Cdc2/cyclin B. PBK can bind to the PDZ domain-containing protein, Dlg, and can phosphorylate p38 MAPK. Thus, PBK is a MAPKK family member that may be important for regulation of PDZ domain proteins during mitosis.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.

Western blot analysis of PBK on a Jurkat cell lysate (Human T-cell leukemia; ATCC TIB-152). *Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of the anti-PBK antibody.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20° C.

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Not Recommended

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Abe Y, Matsumoto S, Kito K, Ueda N. 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.* 2000; 275(28):21525-21531.(Biology)

Gaudet S, Branton D, Lue RA. Characterization of PDZ-binding kinase, a mitotic kinase. *Proc Natl Acad Sci U S A.* 2000; 97(10):5167-5172.(Biology)

Zhao S, Dai J, Zhao W. PDZ-binding kinase participates in spermatogenesis. *Int J Biochem Cell Biol.* 2001; 33(6):631-636.(Biology)