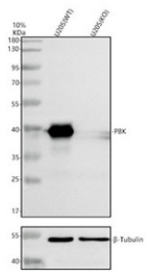
PBK Antibody / PDZ Binding Kinase Antibody (R31723)

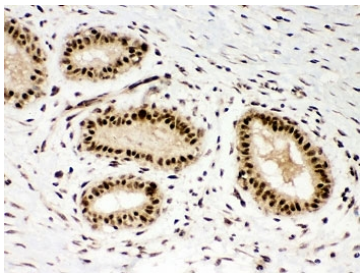
Catalog No.	Formulation	Size
R31723	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

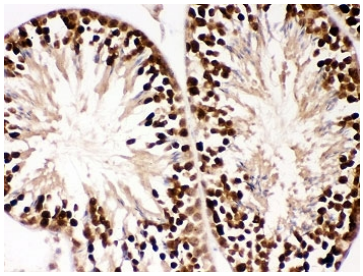
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide
Gene ID	55872
Localization	Nuclear and cytoplasmic
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 0.5-1ug/ml Immunofluorescence: 2-4ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This PBK Antibody / PDZ Binding Kinase Antibody is available for research use only.



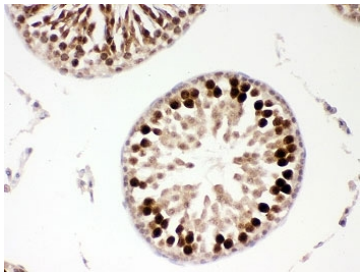
PBK Antibody WB Analysis of Human U2OS WT and PBK KO Cells. Western blot analysis of wild-type (WT) U2OS cell lysate (lane 1) and PBK knockout (KO) U2OS cell lysate (lane 2) using PDZ Binding Kinase Antibody. A prominent immunoreactive band near 40 kDa in WT cells is markedly reduced in PBK KO cells, supporting antibody specificity. Although the calculated molecular weight of PBK is approximately 36 kDa, migration in the 36-43 kDa range has been documented in published studies, including higher-molecular-weight forms associated with phosphorylation. Samples containing 30 ug of protein per lane were separated by 10% SDS-PAGE, and the primary antibody was used at 0.5 ug/ml. Beta-tubulin served as the loading control.



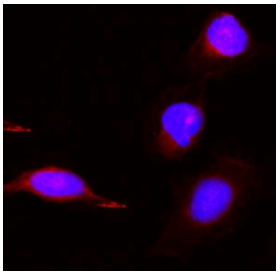
PBK Antibody IHC Analysis of Human Breast Tissue. Immunohistochemical analysis of formalin-fixed, paraffin-embedded human breast tissue using PDZ Binding Kinase Antibody. Brown DAB staining is observed in glandular epithelial cells, with prominent nuclear staining and additional cytoplasmic immunoreactivity.



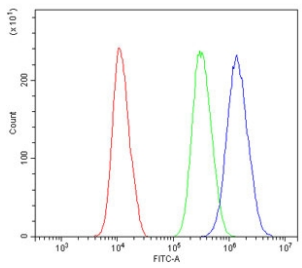
PBK Antibody IHC Analysis of Mouse Testis Tissue. Immunohistochemical analysis of formalin-fixed, paraffin-embedded mouse testis tissue using PDZ Binding Kinase Antibody. Prominent brown DAB staining is observed in nuclei of cells within the seminiferous epithelium, consistent with the involvement of PBK in proliferative and mitotic processes.



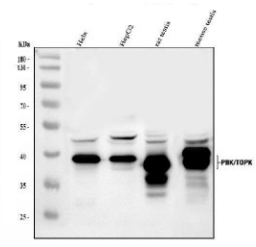
PBK Antibody IHC Analysis of Rat Testis Tissue. Immunohistochemical analysis of formalin-fixed, paraffin-embedded rat testis tissue using PDZ Binding Kinase Antibody. Brown DAB staining is observed predominantly in nuclei of cells within the seminiferous tubules, consistent with the association of PBK expression with proliferating germ cell populations.



PBK Antibody IF Analysis of Human U-2 OS Cells. Immunofluorescence analysis of formalin-fixed, paraffin-embedded human U-2 OS cells using PDZ Binding Kinase Antibody at 2 ug/ml. Red fluorescence is observed predominantly in the cytoplasm, with DAPI nuclear counterstaining shown in blue. Heat-induced epitope retrieval was performed using citrate buffer (pH 6.0) for 20 minutes.



PBK Antibody FACS Staining of Human A549 Cells. Flow cytometry analysis of human A549 cells using PDZ Binding Kinase Antibody at 1 ug per million cells following blocking with goat serum. The antibody-stained population (blue) shows a rightward fluorescence shift relative to the isotype control (green) and cells-only control (red), indicating increased PBK-associated staining.



PBK Antibody WB Analysis of Human HeLa and HepG2 Cells, Rat Testis and Mouse Testis. Western blot analysis of human HeLa (lane 1) and HepG2 (lane 2) cell lysates, rat testis (lane 3) and mouse testis (lane 4) tissue lysates using PDZ Binding Kinase Antibody. Prominent immunoreactive bands are detected in the approximately 36-43 kDa region, with additional higher-molecular-weight bands visible in several samples. Although the calculated molecular weight of PBK is approximately 36 kDa, published studies have documented migration up to approximately 43 kDa and phosphorylation-associated changes in electrophoretic mobility.

Description

PBK Antibody / PDZ Binding Kinase Antibody targets PBK, a serine/threonine protein kinase also known as TOPK, or T-LAK cell-originated protein kinase. Encoded by the PBK gene, this enzyme participates in signaling pathways associated with cell division, mitotic progression, and cellular proliferation. PBK belongs to a family of kinases related to mitogen-activated protein kinase kinases, although its biological functions and regulatory mechanisms distinguish it from conventional MAPK pathway components.

PBK expression is closely associated with proliferating cells and is particularly prominent in tissues undergoing active cell division. Its expression is regulated during the cell cycle, with increased activity during mitosis. Phosphorylation contributes to kinase activation, and interactions with mitotic regulatory proteins help coordinate PBK function during chromosome segregation and other events associated with cell division.

One important aspect of PBK signaling involves its relationship with the MAPK pathway. PBK has been implicated in the regulation of ERK and p38 MAPK signaling, connecting mitotic activity with broader mechanisms controlling proliferation, stress responses, and cellular adaptation. The precise effects of PBK depend on cellular context and interactions with other signaling components.

PBK also participates in the regulation of chromatin-associated proteins. Experimental studies have linked its kinase activity to histone H3 phosphorylation and mitotic chromatin organization. These functions contribute to interest in PBK as a regulator of the molecular events accompanying cell division. Its activity is influenced by phosphorylation and protein interactions that change as cells progress through the cell cycle.

Elevated PBK expression has been reported in numerous malignancies, including colorectal, breast, lung, and other cancers. Increased expression is frequently associated with proliferative tumor populations and has been investigated in relation to tumor growth, invasion, and resistance to therapeutic stress. However, the biological significance of PBK expression varies among tumor types and molecular backgrounds.

Because PBK contributes to proliferative signaling, it has attracted attention as a potential therapeutic target. Experimental inhibition or depletion of PBK can influence cell cycle progression and tumor-associated signaling in certain models. Research continues to investigate its substrates, regulatory interactions, and contribution to cancer cell survival.

Understanding PBK function provides insight into the coordination of mitotic signaling, kinase regulation, and cellular proliferation. PBK Antibody is relevant to investigations of TOPK-associated signaling pathways, cell cycle regulation, chromatin modification, and the molecular mechanisms connecting protein kinase activity with cancer biology.

PBK/TOPK participates in protein kinase signaling associated with mitotic progression, cellular proliferation, and MAPK pathway regulation. Researchers investigating intracellular kinase activity, cell cycle signaling, and regulatory phosphorylation can explore our Signal Transduction Antibodies collection for additional research reagents.

Application Notes

Variations in secondary/substrate sensitivities and test protocols may require the PBK Antibody / PDZ Binding Kinase Antibody to be titrated for optimal performance.

Immunogen

Human partial recombinant protein (AA 71-322) was used as the immunogen for this PBK antibody.

Storage

The lyophilized PBK antibody can be stored at 4oC to -20oC. After reconstitution, aliquot and store at -20oC. Avoid repeated freeze/thaws.

Alternate Names

TOPK antibody, PDZ-binding kinase antibody, T-LAK cell-originated protein kinase antibody, T-LAK cell-originated kinase antibody, MAPKK-like protein kinase antibody

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