Technical Data Sheet

Purified Mouse Anti-PDPK1

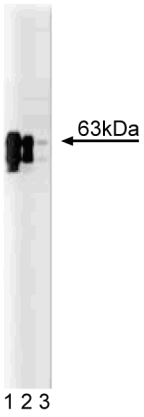
Product Information

Material Number:	**611071**
Alternate Name:	PKB Kinase, Akt Kinase, PDK1
Size:	150 µg
Concentration:	250 µg/ml
Clone:	5/PDK1
Immunogen:	Rat PDPK1 aa. 439-555
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Dog, Mouse, Rat
Target MW:	58-63 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Protein Kinase B (PKB) is downstream of phosphoinositide 3-kinase (PI3-Kinase) that functions in a critical signaling pathway for receptor-dependent cell activation. PKB activation requires the binding of lipid metabolites phosphatidylinositol 3,4,5-trisphosphate and phosphatidylinositol 3,4-bisphosphate, phospholipid products of PI3-Kinase. These lipids bind to PKB and induce a conformational change in the enzyme, resulting in its translocation to the plasma membrane. Following cell activation, PKB is phosphorylated on Thr-308 by another kinase designated as 3-Phosphoinositide-Dependent Protein Kinase 1 (PDPK1) or also known as PKB Kinase. This kinase probably represents a new family of phospholipid-dependent activities with molecular weights that range from 31 to 220 kDa. PDPK1 consists of 559 amino acids with an N-terminal catalytic domain and a pleckstrin-homology (PH) domain located in the C-terminal region. Like PKB, PDPK1 requires the presence of phosphatidylinositol 3,4,5-trisphosphate for maximal activity. Thus, PDPK1 acts upstream of PKB and may control signals important for proliferation, apoptosis, and metabolism.

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 PDPK1 on a SW13 cell lysate (human adrenal gland carcinoma; ATCC CCL-105). *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of the anti-PDPK1 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	Tested During Development

Suggested Companion Products

Catalog Number	Name	Size	Clone
611475	SW-13 Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Igs	0.5 mg	Polyclonal

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. 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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Fujita N, Sato S, Ishida A, Tsuruo T. Involvement of Hsp90 in signaling and stability of 3-phosphoinositide-dependent kinase-1. *J Biol Chem.* 2002; 277(12):10346-10353.(Biology: Immunoprecipitation, Western blot)

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Nakashio A, Fujita N, Rokudai S, Sato S, Tsuruo T. Prevention of phosphatidylinositol 3'-kinase-Akt survival signaling pathway during topotecan-induced apoptosis. *Cancer Res.* 2000; 60(18):5303-5309.(Biology: Western blot)

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Stokoe D, Stephens LR, Copeland T, et al. Dual role of phosphatidylinositol-3,4,5-trisphosphate in the activation of protein kinase B. *Science.* 1997; 277(5325):567-570.(Biology)