Technical Data Sheet

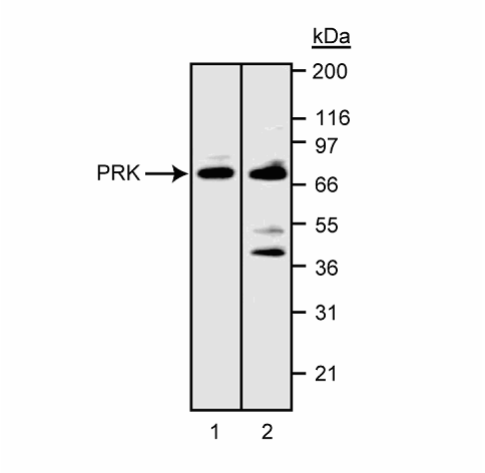
Purified Mouse Anti-PRK

Product Information

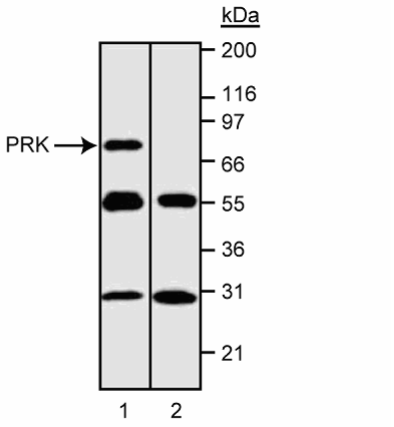
Material Number:	**556518**
Alternate Name:	Proliferation Related Kinase
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	B37-2
Immunogen:	Recombinant Human PRK Protein aa. 334-607
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human
Target MW:	68 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

PRK (proliferation-related kinase) is a serine/threonine kinase with significant homology to members of the polo family of protein kinases (e.g., mouse *fnk/snk*, human and mouse plk). There are two domains in the polo family kinases, an amino-terminal kinase domain and a carboxylterminal regulatory domain. Polo kinases have been previously implicated in cell division. Tissue specific expression of PRK mRNA is normally fairly restricted, but includes human placenta, and to a lesser degree, ovaries and peripheral blood leukocytes. PRK mRNA is generally undetectable in many cell lines but may be induced in some cell types by mitogens or following addition of serum to previously serum-deprived cells. PRK expression is tightly regulated at various levels during different stages of the cell cycle. For example, PRK kinase activity in lung fibroblasts is relatively low during mitosis, G1, and G1/S; PRK activity peaks in late S and G2. Recombinant human PRK is capable of phosphorylating Cdc25C, a positive regulator for the G2/M transition. Thus, PRK appears to play an important role in regulating the onset and/or progression of mitosis in mammalian cells. PRK was originally reported to migrate at 68 kD in SDS-PAGE. We observe that PRK migrates at ~72 kD. A recombinant protein corresponding to amino acids 334 to 607 of human PRK was used as immunogen.



Western blot analysis of PRK in two human prostate carcinoma cell lines (DU 145, lane 1 and PC-3, lane 2). *Clone B37-2 identifies PRK as a band of ~72 kD in both cell lines. Additional uncharacterized lower molecular bands are also seen in PC-3 cell lysate; these may represent breakdown products or cross-reactive species.*



Immunoprecipitation/Western blot analysis of PRK in Du 145 prostate carcinoma cells*. Whole cell lysates were immunoprecipitated with anti- PRK, clone B37-2 (lane 1) or a mouse IgG1 isotype control (lane 2) and probed with clone B37-2 in western blots. The two lower bands in lane 1 and the bands in lane 2 represent the IgG heavy and light chains of the antibodies used for mmunoprecipitation.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

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Application Notes

Application

Western blot	Routinely Tested
Immunoprecipitation	Tested During Development

Recommended Assay Procedure:

The antibody was originally characterized by western blot analysis using a panel of cell lines. PRK was found to be constitutively expressed in the following cell lines and not to require induction: and PRK expression was detected in the following cell lines: MCF7 human breast carcinoma (ATCC HTB-22), A549 human lung carcinoma (ATCC CCL-185), LNCap human prostate carcinoma (ATCC CRL-1740), ACHN renal adenocarcinoma (ATCC CRL 1611), and 769-P renal carcinoma (ATCC CRL-1933), DU 145 (ATCC HTB-81) human prostate carcinoma (also used for immunoprecipitation), and PC-3 (ATCC CRL-1435) human prostate carcinoma. Applications include immunoprecipitation (1-3 µg/ml) and western blot analysis (1-2 µg/ml). DU 145 (ATCC HTB-81) and PC-3 (ATCC CRL-1435) human prostate carcinoma cell lines are suggested as positive controls.

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	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. 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

Donohue PJ, Alberts GF, Guo Y, Winkles JA. Identification by targeted differential display of an immediate early gene encoding a putative serine/threonine kinase. *J Biol Chem.* 1995; 270(17):10351-10357.(Biology)

Golsteyn RM, Schultz SJ, Bartek J, Ziemiecki A, Ried T, Nigg EA. Cell cycle analysis and chromosomal localization of human Plk1, a putative homologue of the mitotic kinases Drosophila polo and Saccharomyces cerevisiae Cdc5. *J Cell Sci.* 1994; 107(Pt 6):1509-1517.(Biology)

Li B, Ouyang B, Pan H. Prk, a cytokine-inducible human protein serine/threonine kinase whose expression appears to be down-regulated in lung carcinomas. *J Biol Chem.* 1996; 271(32):19402-19408.(Biology)

Ouyang B, Pan H, Lu L, Li J, Stambrook P, Li B, Dai W. Human Prk is a conserved protein serine/threonine kinase involved in regulating M phase functions. *J Biol Chem.* 1997; 272(45):28646-28651.(Immunogen)