Technical Data Sheet

# Purified Mouse Anti-βPIX

## Product Information

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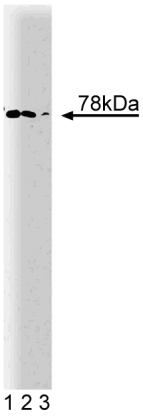
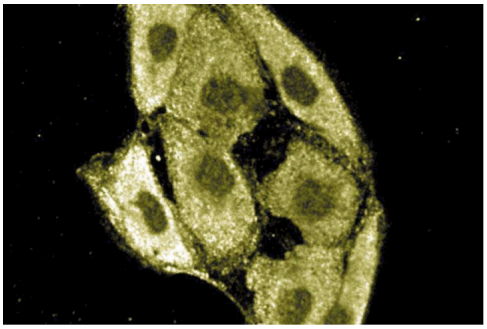
|---|---|
| **Material Number:** | **611649** |
| **Size:** | 150 µg |
| **Concentration:** | 250 µg/ml |
| **Clone:** | 23/bPIX |
| **Immunogen:** | Rat βPIX aa. 351-453 |
| **Isotype:** | Mouse IgG1 |
| **Reactivity:** | QC Testing: Rat<br>Tested in Development: Mouse, Dog, Chicken |
| **Target MW:** | 78 kDa |
| **Storage Buffer:** | Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide. |

## Description

The activity of PAK family kinases is regulated through interaction with the small GTPases Cdc42 and Rac1. PAKs are activated by the GTP-bound form of Cdc-42 and Rac1, and recruitment of PAKs to focal complexes has been implicated in Cdc42- and Rac1-dependent regulation of focal contact formation. **P**AK-**i**nteracting e**x**change factor (PIX) was identified in a screen for proteins that bind PAKs. Two forms of PIX have been identified: an 85 kDa protein designated αPIX and a 78 kDa protein designated βPIX. These proteins have 80% identity in their overlapping regions, which include myosin-like, pleckstrin (PH), Dbl (DH), and SH3 domains. In addition, αPIX contains a calponin-like domain at the N-terminus. The expression of βPIX is ubiquitous, while αPIX is expressed in heart, muscle, and thymus. PIX can act as a guanine nuleotide exchange factor for Rac1 and co-transfection of βPIX, Cdc42, and αPAK results in increased αPAK activity. PIX binding to PAK is required for localization of PAKs to focal complexes and injection of βPIX leads to Rac1-dependent membrane ruffling. Thus, PIX is important for PAK localization and activity during small GTPase-dependent regulation of cell morphology.




***Western blot analysis of βPIX on PC12 cell lysate.*** *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of anti-βPIX.*



***Immunofluorescent staining on MDCK cells.***

## Preparation and Storage

Store undiluted at -20°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

## Application Notes

**Application**

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|---|---|
| Western blot | Routinely Tested |
| Immunofluorescence | Tested During Development |

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## Suggested Companion Products

| Catalog Number | Name | Size | Clone |
|---|---|---|---|
| 611454 | PC12 Cell Lysate | 500 µg | (none) |
| 554002 | HRP Goat Anti-Mouse Ig | 1.0 ml | (none) |
| 554001 | FITC Goat Anti-Mouse Ig | 0.5 mg | Polyclonal |

## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. 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.
3. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

## References


Bagrodia S, Taylor SJ, Jordon KA, Van Aelst L, Cerione RA. A novel regulator of p21-activated kinases. *J Biol Chem.* 1998; 273(37):23633-23636. (Biology)

Manser E, Loo TH, Koh CG, et al. PAK kinases are directly coupled to the PIX family of nucleotide exchange factors. *Mol Cell.* 1998; 1(2):183-192. (Biology)

Oh WK, Yoo JC, Jo D, Song YH, Kim MG, Park D. Cloning of a SH3 domain-containing proline-rich protein, p85SPR, and its localization in focal adhesion. *Biochem Biophys Res Commun.* 1997; 235(3):794-798. (Biology)

Turner CE, Brown MC, Perrotta JA, et al. Paxillin LD4 motif binds PAK and PIX through a novel 95-kD ankyrin repeat, ARF-GAP protein: A role in cytoskeletal remodeling. *J Cell Biol.* 1999; 145(4):851-863. (Biology)



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