

βPIX (h): 293T Lysate: sc-177731

BACKGROUND

The serine/threonine kinase, p21 activated kinase (PAK), is a downstream effector of the small GTPases Cdc42 and Rac. PAK associates with Nck, the p85 and p110 subunits of PI3-kinase, and PIX (PAK-interacting exchange factor) in a focal complex. The binding of PIX is necessary for the localization and activation of PAK in the Cdc42 to Rac signaling pathway, and this binding occurs through the high affinity of the N-terminal SH3 domain of PIX for a conserved proline rich PAK sequence. PIX exists as two isoforms, α and β and both are highly expressed in heart, muscle, and thymus tissues of human and rat. αPIX is phosphorylated via PDGF and EphB2 receptor signaling pathways or through association with PI3-kinase. The αPIX isoform predominantly acts as a guanine nucleotide exchange factor (GEF) on Rac, which may mediate lamellipodia formation.

REFERENCES

1. Manser, E., Loo, T.H., Koh, C.G., Zhao, Z.S., Chen, X.Q., Tan, L., Tan, I., Leung, T. and Lim, L. 1998. PAK kinases are directly coupled to the PIX family of nucleotide exchange factors. *Mol. Cell* 1: 183-192.
2. Obermeier, A., Ahmed, S., Manser, E., Yen, S.C., Hall, C. and Lim, L. 1998. PAK promotes morphological changes by acting upstream of Rac. *EMBO J.* 17: 4328-4339.
3. Yoshii, S., Tanaka, M., Otsuki, Y., Wang, D.Y., Guo, R.J., Zhu, Y., Takeda, R., Hanai, H., Kaneko, E. and Sugimura, H. 1999. αPIX nucleotide exchange factor is activated by interaction with phosphatidylinositol 3-kinase. *Oncogene* 18: 5680-5690.
4. Daniels, R.H., Zenke, F.T. and Bokoch, G.M. 1999. αPIX stimulates p21-activated kinase activity through exchange factor-dependent and -independent mechanisms. *J. Biol. Chem.* 274: 6047-6050.
5. Turner, C.E., Brown, M.C., Perrotta, J.A., Riedy, M.C., Nikolopoulos, S.N., McDonald, A.R., Bagrodia, S., Thomas, S. and Leventhal, P.S. 1999. 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.* 145: 851-863.

CHROMOSOMAL LOCATION

Genetic locus: ARHGEF7 (human) mapping to 13q34.

PRODUCT

βPIX (h): 293T Lysate represents a lysate of human βPIX transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

βPIX (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive βPIX antibodies. Recommended use: 10-20 µl per lane.

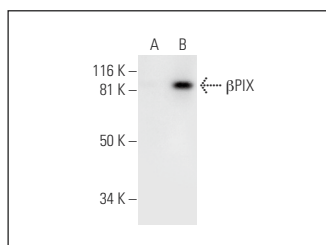
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

βPIX (H-3): sc-393184 is recommended as a positive control antibody for Western Blot analysis of enhanced human βPIX expression in βPIX transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

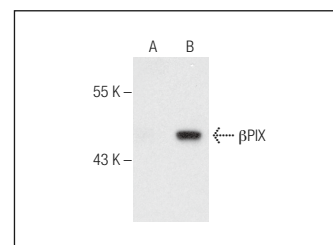
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



βPIX (H-3): sc-393184. Western blot analysis of βPIX expression in non-transfected: sc-117752 (A) and human βPIX transfected: sc-177731 (B) 293T whole cell lysates.



βPIX (23): sc-136035. Western blot analysis of βPIX expression in non-transfected: sc-117752 (A) and human βPIX transfected: sc-177731 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.