



## Pak1 (yD-16): sc-31684

### BACKGROUND

Pak1 belongs to the Ser/Thr protein kinase family and may function by modifying and partially stabilizing thermolabile DNA polymerases, perhaps during DNA repair. Expression of Pak1 increases specific activity of p53 in DNA-binding assays accompanied by a corresponding increase in transactivation. *In vitro* protein kinase assays show that GST-Pak1 can autophosphorylate, and can phosphorylate casein as an exogenous substrate. The Pak1 protein autophosphorylates on serine residues and preferentially binds to activated Cdc42p both *in vitro* and *in vivo*. This binding is mediated through the p21 binding domain on Pak1p and the effector domain on Cdc42p. Pak1 catalytic domain binds to the same highly conserved region on the regulatory domain that binds Cdc42, a GTPase protein capable of activating Pak1.

### REFERENCES

1. Thiagalingam, S., et al. 1995. Pak1, a gene that can regulate p53 activity in yeast. *Proc. Natl. Acad. Sci. USA* 92: 6062-6066.
2. Otilite, S., et al. 1995. Fission yeast Pak1+ encodes a protein kinase that interacts with Cdc42p and is involved in the control of cell polarity and mating. *EMBO J.* 14: 5908-5919.
3. Hovland, P.G., et al. 1997. Overexpression of the protein kinase Pak1 suppresses yeast DNA polymerase mutations. *Mol. Gen. Genet.* 256: 45-53.
4. Sells, M.A., et al. 1998. Characterization of Pak2p, a pleckstrin homology domain-containing, p21-activated protein kinase from fission yeast. *J. Biol. Chem.* 273: 18490-18498.
5. Tu, H., et al. 1999. Genetic evidence for Pak1 autoinhibition and its release by Cdc42. *Mol. Cell. Biol.* 19: 602-611.
6. SWISS-PROT/TrEMBL (P38990). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

### CHROMOSOMAL LOCATION

Genetic locus: PAK1 (human) mapping to 11q14; Pak1 (mouse) mapping to 8 C2.

### SOURCE

Pak1 (yD-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Pak1 of *Saccharomyces cerevisiae* origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31684 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

### APPLICATIONS

Pak1 (yD-16) is recommended for detection of Pak1 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Pak1: 72 kDa.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### RESEARCH USE

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