

PAK5 (S-16): sc-22155

BACKGROUND

The p21-activated kinase (PAK) family of protein kinases are serine/threonine protein kinases that bind to and, in some cases, are stimulated by activated forms of the small GTPases, Cdc42 and Rac. PAK5, a member of the PAK family of protein kinases contains a CDC42/Rac1 interactive binding (CRIB) motif at the N-terminus and a Ste20-like kinase domain at the C-terminus. PAK5 preferentially binds to CDC42 in the presence of GTP and the CRIB motif is essential for this interaction. PAK5 operates downstream of Cdc42 and Rac and antagonizes Rho in the pathway, leading to neurite development. PAK5 is a functional protein kinase, but, unlike PAK-I family kinases (PAK1, 2, and 3), the kinase activity of PAK5 does not seem to require the binding of CDC42. PAK5 is highly expressed in mammalian brain but is not expressed in most other tissues. PAK5 colocalizes and binds to both the actin and MT networks and its subcellular localization is regulated during cell cycle progression.

REFERENCES

1. Cau, J., et al. 2001. A novel p21-activated kinase binds the actin and microtubule networks and induces microtubule stabilization. *J. Cell Biol.* 155: 1029-1042.
2. Pandey, A., et al. 2002. Cloning and characterization of PAK5, a novel member of mammalian p21-activated kinase-II subfamily that is predominantly expressed in brain. *Oncogene* 21: 3939-3948.
3. Dan, C., et al. 2002. PAK5, a new brain-specific kinase, promotes neurite outgrowth in N1E-115 cells. *Mol. Cell. Biol.* 22: 567-577.
4. Jaffer, Z.M. and Chernoff, J. 2002. p21-Activated kinases: three more join the Pak. *Int. J. Biochem. Cell Biol.* 34: 713-717.

CHROMOSOMAL LOCATION

Genetic locus: PAK7 (human) mapping to 20p12.2; Pak7 (mouse) mapping to 2 F3.

SOURCE

PAK5 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PAK5 of human 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-22155 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

PAK5 (S-16) is recommended for detection of PAK5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PAK5 (S-16) is also recommended for detection of PAK5 in additional species, including equine, canine, bovine and porcine.

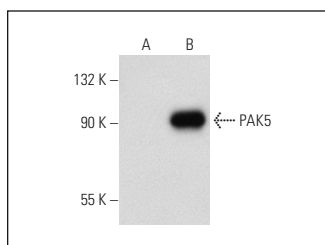
Suitable for use as control antibody for PAK5 siRNA (h): sc-39062, PAK5 siRNA (m): sc-151996, PAK5 shRNA Plasmid (h): sc-39062-SH, PAK5 shRNA Plasmid (m): sc-151996-SH, PAK5 shRNA (h) Lentiviral Particles: sc-39062-V and PAK5 shRNA (m) Lentiviral Particles: sc-151996-V.

Positive Controls: PAK5 (h2): 293T Lysate: sc-173746.

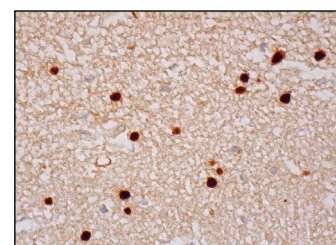
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



PAK5 (S-16): sc-22155. Western blot analysis of PAK5 expression in non-transfected: sc-117752 (A) and human PAK5 transfected: sc-173746 (B) 293T whole cell lysates.



PAK5 (S-16): sc-22155. Immunoperoxidase staining of formalin fixed, paraffin-embedded human hippocampus tissue showing nuclear staining of cells in tubules.

RESEARCH USE

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