SANTA CRUZ BIOTECHNOLOGY, INC.

p-paxillin (Tyr 181): sc-16668

BACKGROUND

The effects of some oncogenes, growth factors and neuropeptides are mediated by tyrosine phosphorylation of focal adhesion kinase (FAK) and paxillin cytoskeletal proteins. A rapid increase in tyrosine phosphorylation of paxillin, FAK and Crk-associated substrate (CAS) are prominent early events triggered by many G protein-coupled receptors. In addition to G protein-coupled receptors, Angiotensin IV (Ang IV), protein kinase C and other proteins can also mediate the tyrosine phosphorylation of paxillin. Paxillin must bind FAK for maximal phosphorylation in response to cell adhesion. FAK may function to direct tyrosine phosphorylation of paxillin in the process of transformation by the Src oncogene. Tyrosine phosphorylated FAK and paxillin function to regulate the signaling mechanism of the rapid nongenomic action of dexamethasone on the Actin cytoskeleton. In glomerular epithelial cells, TNFα induces substantial reorganization of Actin cytoskeleton and focal adhesions. TNFα also simultaneoulsy mediates tyrosine phosphorylation of paxillin and FAK, which regulate Actin polymerization and the formation of focal adhesions, and may be directly involved in the redistribution of Actin.

REFERENCES

1. Thomas, J.W., et al. 1999. The role of focal adhesion kinase binding in the regulation of tyrosine phosphorylation of paxillin. J. Biol. Chem. 274: 36684-36692.
2. Koukouritaki, S.B., et al. 1999. TNFα induces Actin cytoskeleton reorganization in glomerular epithelial cells involving tyrosine phosphorylation of paxillin and focal adhesion kinase. Mol. Med. 5: 382-392.
3. Koukouritaki, S.B., et al. 1999. Tyrosine phosphorylation of focal adhesion kinase and paxillin regulates the signaling mechanism of the rapid nongenomic action of dexamethasone on Actin cytoskeleton. Mol. Med. 5: 731-742.

CHROMOSOMAL LOCATION

Genetic locus: PXN (human) mapping to 12q24; Pxn (mouse) mapping to 5 F.

SOURCE

p-paxillin (Tyr 181) is is available as either goat (sc-16668) or rabbit (sc-16668-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing phosphorylated Tyr 181 of paxillin 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-16668 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.

RESEARCH USE

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

APPLICATIONS

p-paxillin (Tyr 181) is recommended for detection of Tyr 181 phosphorylated paxillin of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for paxillin siRNA (h): sc-29439, paxillin shRNA Plasmid (h): sc-29439-SH and paxillin shRNA (h) Lentiviral Particles: sc-29439-V.

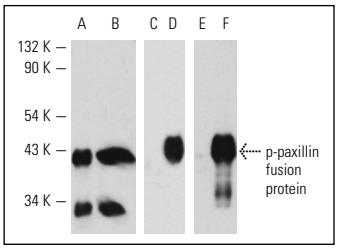
Molecular Weight of p-paxillin: 68 kDa.

Positive Controls: HeLa + serum starved + serum cell lysate: sc-24691 or A-431 whole cell lysate: sc-2201.

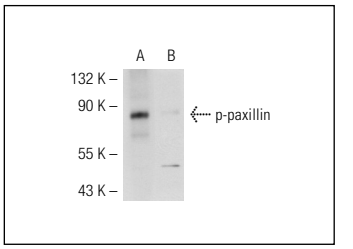
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-14268): use donkey anti-goat IgG-HRP: sc-2020 (range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (range: 1:2000-1:5000), for rabbit primary antibody (sc-14268-R): use goat anti-rabbit IgG-HRP: sc-2004 (range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (range: 1:2000-1:5000); Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: for goat primary antibody (sc-14268): use donkey anti-goat IgG-FITC: sc-2024 (range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (range: 1:100-1:400), for rabbit primary antibody (sc-14268-R): use goat anti-rabbit IgG-FITC: sc-2012 (range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Western blot analysis of human recombinant paxillin fusion protein (**A**,**C**,**E**) and human recombinant paxillin fusion protein phosphorylated by mouse recombinant Abl (**B**,**D**,**F**). Antibodies tested include paxillin (H-114): sc-5574 (**A**,**B**), p-paxillin (Tyr 181): sc-16668 (**C**,**D**) and p-paxillin (Tyr 181)-R: sc-16668-R (**E**,**F**).



p-paxillin (Tyr 181)-R: sc-16668-R. Western blot analysis of paxillin phosphorylation in untreated (**A**) and lambda protein phosphatase (sc-200312A) treated (**B**) A-431 whole cell lysates.

PROTOCOLS

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