

p-paxillin (Tyr 88): sc-293114

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, TNF α induces substantial reorganization of Actin cytoskeleton and focal adhesions. TNF α also simultaneously 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. TNF α 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.
4. Leyton, J., et al. 2001. Bombesin and gastrin releasing peptide increase tyrosine phosphorylation of focal adhesion kinase and paxillin in non-small lung cancer cells. *Cancer Lett.* 162: 87-95.

CHROMOSOMAL LOCATION

Genetic locus: PXN (human) mapping to 12q24.31.

SOURCE

p-paxillin (Tyr 88) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 88 of paxillin of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

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 88) is recommended for detection of Tyr 88 phosphorylated paxillin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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 cell lysate: sc-24693 or HeLa + EGF whole cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution 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) 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

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