

p-paxillin (D-10): sc-271980

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 12q24.23; Pxn (mouse) mapping to 5 F.

SOURCE

p-paxillin (D-10) is a mouse monoclonal antibody epitope corresponding to a short amino acid sequence containing Tyr 118 phosphorylated paxillin of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271980 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-paxillin (D-10) is recommended for detection of Tyr 118 phosphorylated paxillin of mouse, rat, human and avian origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

p-paxillin (D-10) is also recommended for detection of correspondingly phosphorylated paxillin in additional species, including canine.

Suitable for use as control antibody for paxillin siRNA (h): sc-29439, paxillin siRNA (m): sc-36197, paxillin shRNA Plasmid (h): sc-29439-SH, paxillin shRNA Plasmid (m): sc-36197-SH, paxillin shRNA (h) Lentiviral Particles: sc-29439-V and paxillin shRNA (m) Lentiviral Particles: sc-36197-V.

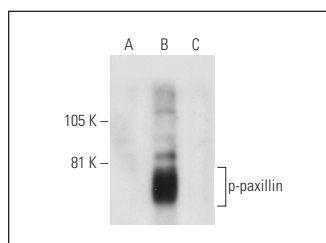
Molecular Weight of p-paxillin: 68 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or HeLa + serum-starved cell lysate: sc-24693.

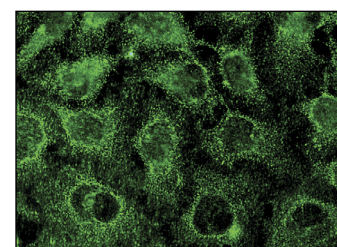
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Western blot analysis of paxillin phosphorylation in untreated (A), pervanadate treated (B) and pervanadate and lambda protein phosphatase (sc-200312A) treated (C) A-431 whole cell lysates. Antibody tested include p-paxillin (D-10): sc-271980 (A, B, C).



p-paxillin (D-10): sc-271980. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.