SANTA CRUZ BIOTECHNOLOGY, INC.

p-paxillin (Tyr 31)-R: sc-14035-R

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: PXN (human) mapping to 12q24.23.

SOURCE

p-paxillin (Tyr 31)-R is an affinity purified rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 31 phosphorylated 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-14035-R P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-paxillin (Tyr 31)-R is recommended for detection of Tyr 31 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). p-paxillin (Tyr 31)-R is also recommended for detection of correspondingly phosphorylated paxillin in additional species, including equine, canine and avian.

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: A-431 whole cell lysate: sc-2201.

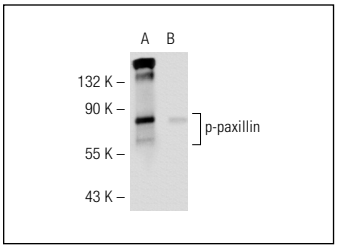
RESEARCH USE

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

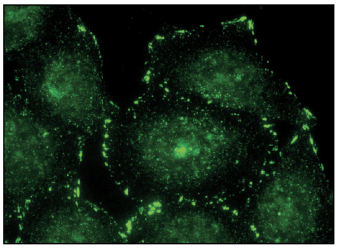
STORAGE

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

DATA



p-paxillin (Tyr 31)-R: sc-14035-R. Western blot analysis of paxillin phosphorylation in untreated (**A**) and lambda protein phosphatase (sc-200312A) treated (**B**) A-431 whole cell lysates.



p-paxillin (Tyr 31)-R: sc-14035-R. Immunofluorescence staining of methanol-fixed serum-starved, then serum-treated HeLa cells showing membrane and nuclear localization.

SELECT PRODUCT CITATIONS

1. Huang, Y., et al. 2008. Midkine promotes tetraspanin-integrin interaction and induces FAK-Stat1α pathway contributing to migration/invasiveness of human head and neck squamous cell carcinoma cells. Biochem. Biophys. Res. Commun. 377: 474-478.
2. Waschbüsch, D., et al. 2009. Presenilin 1 affects focal adhesion site formation and cell force generation via c-Src transcriptional and posttranslational regulation. J. Biol. Chem. 284: 10138-10149.
3. Bokobza, S.M., et al. 2010. The growth and differentiation factor-9 promotes adhesive and motile capacity of prostate cancer cells by up-regulating FAK and Paxillin via Smad dependent pathway. Oncol. Rep. 24: 1653-1659.
4. Ohkawa, Y., et al. 2010. Ganglioside GD3 enhances adhesion signals and augments malignant properties of melanoma cells by recruiting integrins to glycolipid-enriched microdomains. J. Biol. Chem. 285: 27213-27223.
5. Hu, C.T., et al. 2011. Reactive oxygen species-mediated PKC and integrin signaling promotes tumor progression of human hepatoma HepG2. Clin. Exp. Metastasis 28: 851-863.
6. Jiang W.G., et al. 2012. Inhibitory effects of Yangzheng Xiaoji on angiogenesis and the role of the focal adhesion kinase pathway. Int. J. Oncol. 41: 1635-1642.
7. Petridou, N.I., et al. 2012. Activation of endogenous FAK via expression of its amino terminal domain in *Xenopus* embryos. PLoS One 7: e42577.
8. Jiang, W.G., et al. 2013. Antitumour effects of Yangzheng Xiaoji in human osteosarcoma: the pivotal role of focal adhesion kinase signalling. Oncol. Rep. E-published.

PROTOCOLS

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