

Background

Paxillin, a focal adhesion protein, is involved in focal adhesion formation during cell adhesion and migration. Paxillin contains LD motifs, LIM domains, and SH3-/SH2-binding domains that participate in a variety of protein-protein interactions with kinases, GTPase-activating proteins, and cytoskeletal proteins. Phosphorylation of paxillin occurs at both tyrosine and serine sites. Serine phosphorylation of paxillin occurs in response to growth-factor activation and fibronectins. Both ERK and p38MAPK kinases phosphorylate serine 83 in vitro. HGF stimulation of murine epithelial cells leads to ERK-mediated phosphorylation of Ser-83, which is required for HGF-induced cell spreading and migration. In addition, Ser-83 is phosphorylated in response to NGF in PC12 cells, and this phosphorylation may be involved in neurite extension. In human paxillin, Ser-85 rather than Ser-83 may be the site phosphorylated by p38 MAPK and mutation of this site inhibits NGF-induced neurite extension. Thus, serine residues in the N-terminal region of paxillin may be important for growth-factor mediated changes in activity.

Background References

Huang, C. et al. (2004) *J Cell Biol.* 164(4):593-602.
Ishibe, S. et al. (2004) *Mol. Cell* 16 :257-267.

Product Citations

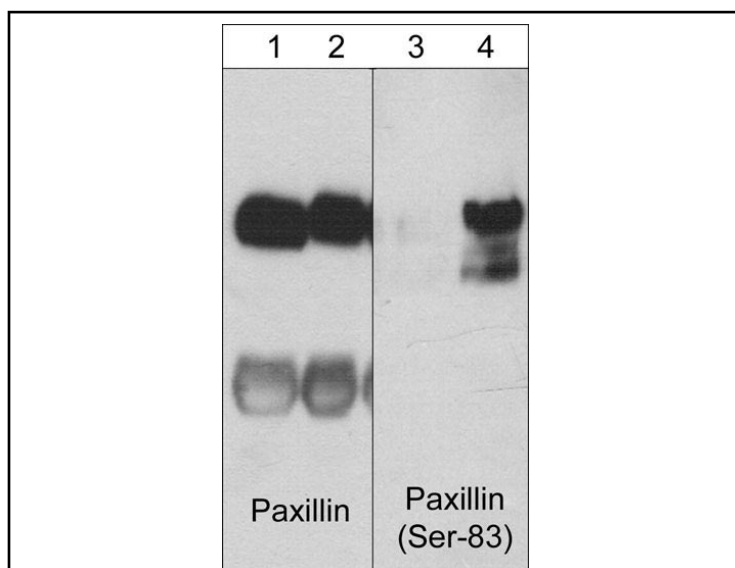
Fan, Y. et al. (2018) *Front Cell Neurosci.* 12:309.
WB: mouse BV2 microglia

Fuste, NP et al. (2016) *Nat Commun.* 7:11581.
WB/ICC/IHC: rat tumor cells

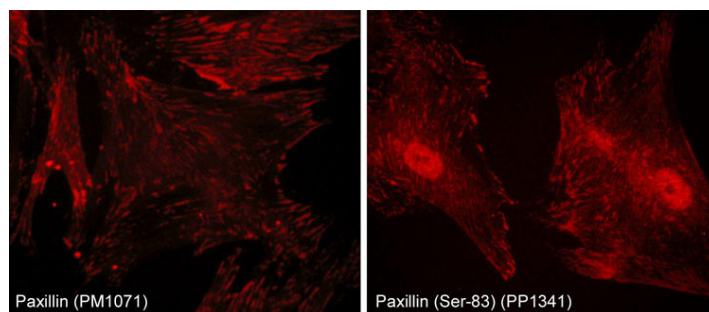
Wu, D. W. et al. (2014) *Oncogene* 33(35): 4385.
WB: CCM3 cells

Lee, S. et al. (2013) *Biochim Biophys Acta.* 1830(8):4017.
WB: rat C6 and human U373 gliomas

Sen, A. et al. (2012) *J Clin Invest.* 122(7):2469.
WB, ICC: C4C2, PC3, LNCaP,



Western blot analysis of PC12 cells untreated (lanes 1 & 3) or treated with NGF (200 ng/ml) for 60 min (lanes 2 & 4). The blots were probed with mouse monoclonal anti-Paxillin (PM1071; lane 1 & 2) or rabbit polyclonal anti-Paxillin (Ser-83) phospho-specific antibody (lane 3 & 4).



Immunocytochemical labeling of Ser-83 phosphorylated paxillin in rabbit spleen fibroblasts. The cells were labeled with mouse monoclonal Paxillin (left) and rabbit polyclonal Paxillin (Ser-83, right) antibodies, then detected using appropriate secondary antibodies conjugated to Cy3.

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Immunogen**Uniprot ID: Q8VI36**

Phospho-Paxillin (Ser-83) synthetic peptide (coupled to KLH) corresponding to amino acid residues around serine 83 of mouse paxillin. This sequence is highly conserved in rat and human paxillin and is also found in all isoforms (a, b, g) of paxillin.

Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

Applications

WB	1:1000
ELISA	1:2000
ICC	1:50

Species Reactivity

Rt, Ms

End user should determine optimal dilution for their particular applications and experiments.

Western blot membranes were incubated with diluted antibody in 5% non-fat milk, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.

Abbreviations: E = ELISA, ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot
Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine

Specificity

This antibody was affinity purified using phospho-Paxillin (Ser-83) peptide (without carrier). The antibody detects a 68kDa* protein corresponding to the molecular mass of phosphorylated paxillin on SDS-PAGE immunoblots of NGF treated rat PC12 cells, as well as calyculin A treated human A431 cells and mouse macrophages.

*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.

"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

Related Products

PP1051 Paxillin (Ser-178), phospho-specific Rabbit Polyclonal

PM1071 Paxillin Mouse Monoclonal

PM1021 Paxillin (Tyr-31), phospho-specific Mouse Monoclonal

PP1161 Paxillin (C-terminal) Rabbit Polyclonal

FM2461 FAK (Central region) Mouse Monoclonal

FM1211 FAK (Tyr-397), phospho-specific Mouse Monoclonal

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