

# p-FAK (Tyr 576/577): sc-21831

## BACKGROUND

Activation of integrins in the extracellular matrix (ECM) of eukaryotic cells promotes the formation of membrane adhesion complexes, known as focal adhesions, which can include cytoskeletal proteins and protein tyrosine kinases, such as focal adhesion kinase (FAK). Phosphorylation events occurring within focal adhesions influence numerous processes that include mitogenic signaling, cell survival and cell motility. FAK is a non-receptor tyrosine kinase that is ubiquitously expressed and highly conserved between species. FAK is recruited by integrin clusters and variably phosphorylated depending on the effector molecules present in the focal adhesion. Phosphorylation of FAK Tyr 397 decreases during serum starvation, contact inhibition and cell cycle arrest, all conditions under which activating FAK Tyr 407 phosphorylation increases.

## CHROMOSOMAL LOCATION

Genetic locus: PTK2 (human) mapping to 8q24.3; Ptk2 (mouse) mapping to 15 D3.

## SOURCE

p-FAK (Tyr 576/577) is available as either goat (sc-21831) or rabbit (sc-21831-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Tyr 576 and Tyr 577 phosphorylated FAK 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-21831 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-FAK (Tyr 576/577) is recommended for detection of Tyr 576 and Tyr 577 dually phosphorylated FAK of mouse, rat and 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).

p-FAK (Tyr 576/577) is also recommended for detection of correspondingly phosphorylated FAK in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for FAK siRNA (h): sc-29310, FAK siRNA (m): sc-35353, FAK shRNA Plasmid (h): sc-29310-SH, FAK shRNA Plasmid (m): sc-35353-SH, FAK shRNA (h) Lentiviral Particles: sc-29310-V and FAK shRNA (m) Lentiviral Particles: sc-35353-V.

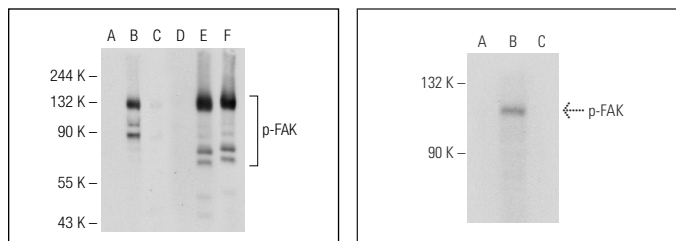
Molecular Weight of p-FAK: 125 kDa.

Positive Controls: FAK (h): 293T Lysate: sc-114600, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

## STORAGE

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

## DATA



Western blot analysis of FAK phosphorylation in non-transfected: sc-117752 (A, D), untreated human FAK transfected: sc-114600 (B, E) and lambda protein phosphatase (sc-200312A) treated human FAK transfected: sc-114600 (C, F) 293T whole cell lysates. Antibodies tested include p-FAK (Tyr 576/577)-R: sc-21831-R (A, B, C) and FAK (C-903): sc-932 (D, E, F).

p-FAK (Tyr 576/577): sc-21831. Western blot analysis of FAK phosphorylation in non-transfected: sc-117752 (A), untreated human FAK transfected: sc-114600 (B) and lambda protein phosphatase treated human FAK transfected: sc-114600 (C) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Morales, S.A., et al. 2007. Collagen gel contraction by ARPE-19 cells is mediated by a FAK-Src dependent pathway. *Exp. Eye Res.* 85: 790-798.
- Parri, M., et al. 2007. EphrinA1 activates a Src/focal adhesion kinase-mediated motility response leading to rho-dependent actino/myosin contractility. *J. Biol. Chem.* 282: 19619-19628.
- Morales, S.A., et al. 2009. Functional consequences of interactions between FAK and epithelial membrane protein 2 (EMP2). *Invest. Ophthalmol. Vis. Sci.* 50: 4949-4956.
- Morales, S.A., et al. 2011. Rewiring integrin-mediated signaling and cellular response with the peripheral myelin protein 22 and epithelial membrane protein 2 components of the tetraspan web. *Invest. Ophthalmol. Vis. Sci.* 52: 5465-5472.
- Diercke, K., et al. 2011. Strain-dependent up-regulation of ephrin-B2 protein in periodontal ligament fibroblasts contributes to osteogenesis during tooth movement. *J. Biol. Chem.* 286: 37651-37664.
- Marley, K., et al. 2012. Phosphotyrosine enrichment identifies focal adhesion kinase and other tyrosine kinases for targeting in canine hemangiosarcoma. *Vet. Comp. Oncol.* 10: 214-222.
- Dalton, G.D., et al. 2013. CB<sub>1</sub> cannabinoid receptors promote maximal FAK catalytic activity by stimulating cooperative signaling between receptor tyrosine kinases and integrins in neuronal cells. *Cell. Signal.* 25: 1665-1677.
- Rovida, E., et al. 2014. The mitogen-activated protein kinase ERK5 regulates the development and growth of hepatocellular carcinoma. *Gut*. E-Published.

## RESEARCH USE

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