

# p-FAK (Tyr 577): sc-16665

## 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 577)-R is available as either goat (sc-16665) or rabbit sc-16665-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Tyr-577 phosphorylated of focal adhesion kinase (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-16665-R P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

p-FAK (Tyr 577) is recommended for detection of Tyr 577 phosphorylated FAK of mouse, rat, human and *Xenopus laevis* 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 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.

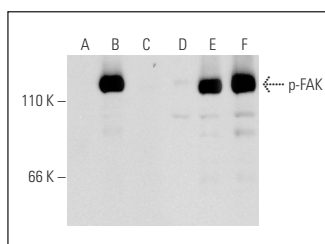
Molecular Weight of p-FAK: 125 kDa.

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

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-16665): use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), for rabbit primary antibody (sc-16665-R): 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), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: for goat primary antibody (sc-16665): use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941, for rabbit primary antibody (sc-16665-R): 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.

## 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 577)-R: sc-16665-R (A, B, C) and FAK (C-903): sc-932 (D, E, F).

## SELECT PRODUCT CITATIONS

- Sen, T., et al. 2010. Fibronectin induces matrix metalloproteinase-9 (MMP-9) in human laryngeal carcinoma cells by involving multiple signaling pathways. *Biochimie* 92: 1422-1434.
- 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.
- Sabatelli, P., et al. 2012. Expression of collagen VI  $\alpha 5$  and  $\alpha 6$  chains in human muscle and in Duchenne muscular dystrophy-related muscle fibrosis. *Matrix Biol.* 31: 187-196.

## STORAGE

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