SANTA CRUZ BIOTECHNOLOGY, INC.

p-FAK (Tyr 861): sc-16663

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 861) is available as either goat (sc-16663) or rabbit (sc-16663-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Tyr 861 phosphorylated 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-16663 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-FAK (Tyr 861) is recommended for detection of Tyr 861 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 861) is also recommended for detection of Tyr 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: HeLa whole cell lysate: sc-2200, FAK (h): 293T Lysate: sc-114600 or Hep G2 cell lysate: sc-2227.

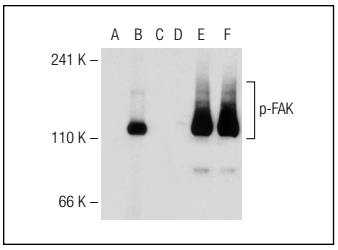
RESEARCH USE

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



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 861)-R: sc-16663-R (**A**,**B**,**C**) and FAK (12G4): sc-56901 (**D**,**E**,**F**).

SELECT PRODUCT CITATIONS

1. Schmitz, K.J., et al. 2005. High expression of focal adhesion kinase ($p125^{FAK}$) in node-negative breast cancer is related to overexpression of HER-2/neu and activated Akt kinase but does not predict outcome. Breast Cancer Res. 7: 194-203.
2. Shi, Q., et al. 2007. A novel low-molecular weight inhibitor of focal adhesion kinase, TAE226, inhibits glioma growth. Mol. Carcinog. 46: 488-496.
3. Leroy, C., et al. 2009. Quantitative phosphoproteomics reveals a cluster of tyrosine kinases that mediates SRC invasive activity in advanced colon carcinoma cells. Cancer Res. 69: 2279-2286.
4. 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.
5. Thevenard, J., et al. 2010. The YSNSG cyclopeptide derived from tumstatin inhibits tumor angiogenesis by down-regulating endothelial cell migration. Int. J. Cancer 126: 1055-1066.
6. 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.
7. Taherian, A., et al. 2011. Differences in integrin expression and signaling within human breast cancer cells. BMC Cancer 11: 293.
8. Zemskov, E.A., et al. 2012. Tissue transglutaminase promotes PDGF/PDGFR-mediated signaling and responses in vascular smooth muscle cells. J. Cell. Physiol. 227: 2089-2096.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.