SANTA CRUZ BIOTECHNOLOGY, INC.

p-FAK (2D11): sc-81493

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.

REFERENCES

1. Schaller, M.D., et al. 1992. pp125 FAK, a structurally distinctive protein-tyrosine kinase associated with focal adhesions. Proc. Natl. Acad. Sci. USA 89: 5192-5196.
2. Lipfert, L., et al. 1992. Integrin-dependent phosphorylation of the protein tyrosine kinase pp125 FAK in platelets. J. Cell Biol. 119: 905-912.

CHROMOSOMAL LOCATION

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

SOURCE

p-FAK (2D11) is a mouse monoclonal antibody raised against phosphopeptide corresponding to amino acid residues surrounding Tyrosine 397 of FAK of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

APPLICATIONS

p-FAK (2D11) is recommended for detection of Tyr 397 phosphorylated FAK of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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.

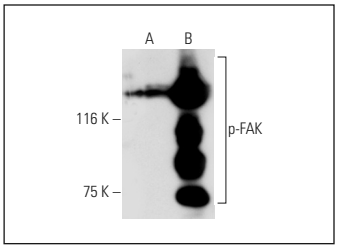
RESEARCH USE

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

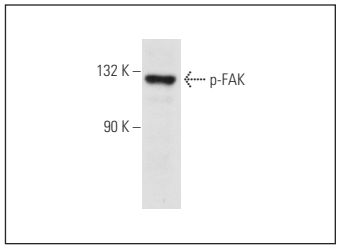
STORAGE

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

DATA



p-FAK (2D11): sc-81493. Western blot analysis of FAK phosphorylation in non-transfected: sc-117752 (**A**) and human FAK transfected: sc-114600 (**B**) 293T whole cell lysates.



p-FAK (2D11): sc-81493. Western blot analysis of FAK phosphorylation in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Shen, Y., et al. 2011. Surface wettability of plasma SiOx:H nanocoating-induced endothelial cells' migration and the associated FAK-Rho GTPases signalling pathways. J. R. Soc. Interface 9: 313-327.
2. Messina, A., et al. 2011. Dysregulation of Semaphorin7A/β1-integrin signaling leads to defective GnRH-1 cell migration, abnormal gonadal development and altered fertility. Hum. Mol. Genet. 20: 4759-4774.
3. Prosperi, J.R., et al. 2011. Apc mutation enhances PyMT-induced mammary tumorigenesis. PLoS ONE 6: e29339.
4. Dreher, L., et al. 2012. Cultivation in human serum reduces adipose tissue-derived mesenchymal stromal cell adhesion to laminin and endothelium and reduces capillary entrapment. Stem Cells Dev. 22: 791-803.
5. Shen, Y., et al. 2013. Integrins-FAK-Rho GTPases pathway in endothelial cells sense and response to surface wettability of plasma nanocoatings. ACS Appl. Mater. Interfaces 5: 5112-5121.
6. Dalton, G.D., et al. 2013. CB_1 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.
7. Huo, Y., et al. 2013. Inhibition of retinal ganglion cell axonal outgrowth through the Amino-Nogo-A signaling pathway. Neurochem. Res. 38: 1365-1374.
8. Shen, Y., et al. 2015. Effect of surface chemistry on the integrin induced pathway in regulating vascular endothelial cells migration. Colloids Surf. B, Biointerfaces 126: 188-197.

PROTOCOLS

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