SANTA CRUZ BIOTECHNOLOGY, INC.

p-FAK (Tyr 407): sc-16664

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. Phospho-rylation 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. Hanks, S.K., et al. 1992. Focal adhesion protein-tyrosine kinase phosphorylated in response to cell attachment to fibronectin. Proc. Natl. Acad. Sci. USA 89: 8487-8491.
3. Lipfert, L., et al. 1992. Integrin-dependent phosphorylation of the protein tyrosine kinase pp125 FAK in platelets. J. Cell Biol. 119: 905-912.
4. Guan, J.L., et al. 1992. Regulation of focal adhesion-associated protein tyrosine kinase by both cellular adhesion and oncogenic transformation. Nature 359: 690-692.
5. Schaller, M.D., et al. 1994. Autophosphorylation of the focal adhesion-associated protein tyrosine kinase, pp 125 FAK, directs SH2-dependent binding of pp60src. Mol. Cell. Biol. 14: 1680-1688.
6. Schlaepfer, D.D., et al. 1996. Evidence for *in vivo* phosphorylation of the GRB2 SH2-domain binding site on focal adhesion kinase by Src-family protein-tyrosine kinases. Mol. Cell. Biol. 16: 5623-5633.

CHROMOSOMAL LOCATION

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

SOURCE

p-FAK (Tyr 407) is available as either goat (sc-16664) or rabbit (sc-16664-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Tyr 407 phosphorylated focal adhesion kinase (FAK) of human origin.

STORAGE

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

RESEARCH USE

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

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-16664 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-FAK (Tyr 407) is recommended for detection of Tyr 407 phosphorylated FAK of mouse, rat, human, *Xenopus laevis* and zebrafish origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

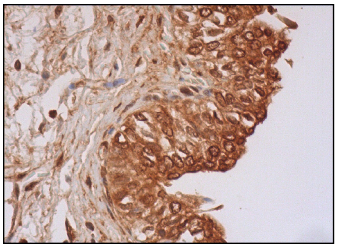
p-FAK (Tyr 407) is also recommended for detection of correspondingly FAK in additional species, including equine, canine, bovine and avian.

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, NIH/3T3 + anisomycin cell lysate: sc-2247 or Hep G2 cell lysate: sc-2227.

DATA



p-FAK (Tyr 407): sc-16664. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells.

SELECT PRODUCT CITATIONS

1. 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.
2. Hu, M., et al. 2012. The clinical significance of psoriasin for non-small cell lung cancer patients and its biological impact on lung cancer cell functions. BMC Cancer 12: 588.
3. Wang, Y., et al. 2012. Small molecule induction of neural-like cells from bone marrow-mesenchymal stem cells. J. Cell. Biochem. 113: 1527-1536.