SANTA CRUZ BIOTECHNOLOGY, INC.

FAK (A-17): sc-557

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Focal adhesion kinase was initially identified as a major substrate for the intrinsic protein tyrosine kinase activity of Src encoded pp60. The deduced amino acid sequence of FAK p125 has shown it to be a cytoplasmic protein tyrosine kinase whose sequence and structural organization are unique as compared to other proteins described to date. Localization of p125 by immunofluorescence suggests that it is primarily found in cellular focal adhesions leading to its designation as focal adhesion kinase (FAK). FAK is concentrated at the basal edge of only those basal keratinocytes that are actively migrating and rapidly proliferating in repairing burn wounds and is activated and localized to the focal adhesions of spreading keratinocytes in culture. Thus, it has been postulated that FAK may have an important *in vivo* role in the reepithelialization of human wounds. FAK protein tyrosine kinase activity has also been shown to increase in cells stimulated to grow by use of mitogenic neuropeptides or neurotransmitters acting through G protein-coupled receptors.

CHROMOSOMAL LOCATION

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

SOURCE

FAK (A-17) is available as either rabbit (sc-557) or goat (sc-557-G) polyclonal affinity purified antibody raised against a peptide mapping at the N-terminus of 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-557 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FAK (A-17) is recommended for detection of FAK p125 of mouse, rat, human, chicken 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), 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).

FAK (A-17) is also recommended for detection of FAK p125 in additional species, including equine, canine, bovine, porcine 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 FAK: 125 kDa.

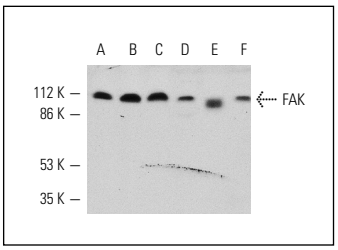
STORAGE

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

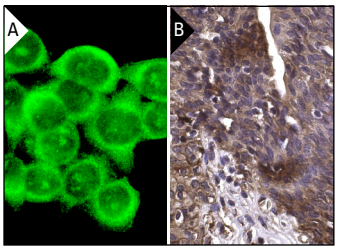
RESEARCH USE

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

DATA



FAK (A-17): sc-557. Western blot analysis of FAK expression in Jurkat (**A**), Ramos (**B**), HeLa (**C**), SK-BR-3 (**D**), MCF7 (**E**) and U-937 (**F**) whole cell lysates.



FAK (A-17): sc-557. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Rodríguez-Fernández, J.L., et al. 1999. The interaction of activated integrin lymphocyte function-associated antigen 1 with ligand intercellular adhesion molecule 1 induces activation and redistribution of focal adhesion kinase and proline-rich tyrosine kinase 2 in T lymphocytes. Mol. Biol. Cell 10: 1891-1907.
2. Kleene, R., et al. 2010. NCAM-induced neurite outgrowth depends on binding of calmodulin to NCAM and on nuclear import of NCAM and fak fragments. J. Neurosci. 30: 10784-10798.
3. Dutta, A., et al. 2010. Culture of K562 human myeloid leukemia cells in presence of fibronectin expresses and secretes MMP-9 in serum-free culture medium. Int. J. Clin. Exp. Pathol. 3: 288-302.
4. Vu, H.A., et al. 2010. Green tea epigallocatechin gallate exhibits anticancer effect in human pancreatic carcinoma cells via the inhibition of both focal adhesion kinase and Insulin-like growth factor-I receptor. J. Biomed. Biotechnol. 2010: 290516.
5. de Gusmão, C.V., et al. 2010. Low-intensity ultrasound increases FAK, ERK-1/2, and IRS-1 expression of intact rat bones in a noncumulative manner. Clin. Orthop. Relat. Res. 468: 1149-1156.
6. Xu, Y., et al. 2010. Filamin A regulates focal adhesion disassembly and suppresses breast cancer cell migration and invasion. J. Exp. Med. 207: 2421-2437.
7. 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.
8. You, R., et al. 2010. The first type III repeat in fibronectin activates an inflammatory pathway in dermal fibroblasts. J. Biol. Chem. 285: 36255-36259.
9. Taherian, A., et al. 2011. Differences in integrin expression and signaling within human breast cancer cells. BMC Cancer 11: 293.
10. Poulard, C., et al. 2012. Activation of rapid oestrogen signalling in aggressive human breast cancers. EMBO Mol. Med. 4: 1200-1213.