SANTA CRUZ BIOTECHNOLOGY, INC.

FAK (H-1): sc-1688

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 (H-1) is a mouse monoclonal antibody raised against amino acids 903-1052 of FAK of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FAK (H-1) is available conjugated to either phycoerythrin (sc-1688 PE), Alexa Fluor® 546 (sc-1688 AF546) or Alexa Fluor® 594 (sc-1688 AF594), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-1688 AF680) or Alexa Fluor® 790 (sc-1688 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

FAK (H-1) is recommended for detection of FAK p125 of mouse, rat and human 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 flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for FAK siRNA (h): sc-29310, FAK siRNA (m): sc-35353, FAK siRNA (r): sc-156037, FAK shRNA Plasmid (h): sc-29310-SH, FAK shRNA Plasmid (m): sc-35353-SH, FAK shRNA Plasmid (r): sc-156037-SH, FAK shRNA (h) Lentiviral Particles: sc-29310-V, FAK shRNA (m) Lentiviral Particles: sc-35353-V and FAK shRNA (r) Lentiviral Particles: sc-156037-V.

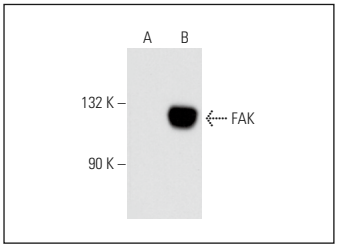
Molecular Weight of FAK: 125 kDa.

Positive Controls: FAK (h): 293T Lysate: sc-114600, Jurkat whole cell lysate: sc-2204 or Ramos cell lysate: sc-2216.

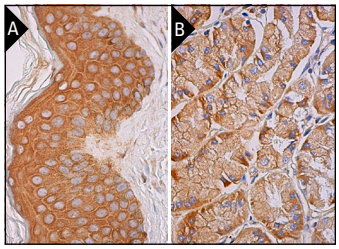
STORAGE

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

DATA



FAK (H-1): sc-1688. Western blot analysis of FAK expression in non-transfected: sc-117752 (**A**) and human FAK transfected: sc-114600 (**B**) 293T whole cell lysates.



FAK (H-1): sc-1688. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Hamazaki, Y., et al. 1998. Tec is involved in G protein-coupled receptor- and integrin-mediated signalings in human blood platelets. Oncogene 16: 2773-2779.
2. Kunit, T., et al. 2014. Inhibition of smooth muscle force generation by focal adhesion kinase inhibitors in the hyperplastic human prostate. Am. J. Physiol. Renal Physiol. 307: F823-F832.
3. Zhang, J., et al. 2015. Promotion of dental pulp cell migration and pulp repair by a bioceramic putty involving FGFR-mediated signaling pathways. J. Dent. Res. 94: 853-862.
4. Silva, P., et al. 2016. Hypoxia promotes Rab5 activation, leading to tumor cell migration, invasion and metastasis. Oncotarget 7: 29548-29562.
5. Chen, Y.R., et al. 2017. Deficiency in VHR/DUSP3, a suppressor of focal adhesion kinase, reveals its role in regulating cell adhesion and migration. Oncogene 36: 6509-6517.
6. Nakagawa, H., et al. 2018. Sodium butyrate induces senescence and inhibits the invasiveness of glioblastoma cells. Oncol. Lett. 15: 1495-1502.
7. Arriagada, C., et al. 2019. Focal adhesion kinase-dependent activation of the early endocytic protein Rab5 is associated with cell migration. J. Biol. Chem. 294: 12836-12845.
8. Fan, Z., et al. 2020. A tropomyosin-like Meretrix meretrix Linnaeus polypeptide inhibits the proliferation and metastasis of glioma cells via microtubule polymerization and FAK/Akt/MMPs signaling. Int. J. Biol. Macromol. 145: 154-164.

RESEARCH USE

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