SANTA CRUZ BIOTECHNOLOGY, INC.

FAK (D-1): sc-271126

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 (D-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-31 at the N-terminus of FAK of human 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 (D-1) is available conjugated to agarose (sc-271126 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271126 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271126 PE), fluorescein (sc-271126 FITC), Alexa Fluor® 488 (sc-271126 AF488), Alexa Fluor® 546 (sc-271126 AF546), Alexa Fluor® 594 (sc-271126 AF594) or Alexa Fluor® 647 (sc-271126 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271126 AF680) or Alexa Fluor® 790 (sc-271126 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, FAK (D-1) is available conjugated to biotin (sc-271126 B), 200 µg/ml, for WB, IHC(P) and ELISA.

Blocking peptide available for competition studies, sc-271126 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

FAK (D-1) is recommended for detection of FAK p125 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

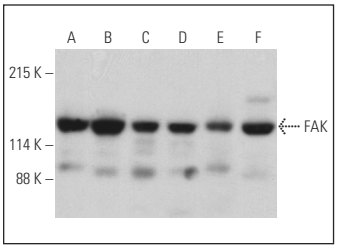
FAK (D-1) is also recommended for detection of FAK p125 in additional species, including equine, canine and porcine.

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.

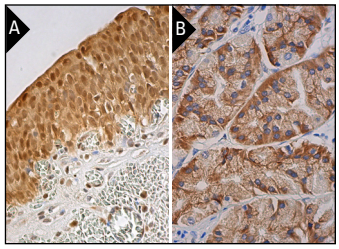
Molecular Weight of FAK: 125 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232, PC-3 cell lysate: sc-2220 or A549 cell lysate: sc-2413.

DATA



FAK (D-1): sc-271126. Western blot analysis of FAK expression in MDA-MB-231 (**A**), PC-3 (**B**), A549 (**C**), J774.A1 (**D**), WEHI-231 (**E**) and AT3B-1 (**F**) whole cell lysates. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.



FAK (D-1): sc-271126. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Dandoulaki, M., et al. 2018. Src activation by Chk1 promotes Actin patch formation and prevents chromatin bridge breakage in cytokinesis. J. Cell Biol. 217: 3071-3089.
2. Schmitt, M., et al. 2019. Quantitative proteomics links the intermediate filament nestin to resistance to targeted BRAF inhibition in melanoma cells. Mol. Cell. Proteomics 18: 1096-1109.
3. Zamani, A.R.N., et al. 2020. Estradiol modulated colorectal cancer stem cells bioactivity and interaction with endothelial cells. Life Sci. 257: 118078.
4. Tian, H., et al. 2021. ASC-J9® suppresses prostate cancer cell proliferation and invasion via altering the ATF3-PTK2 signaling. J. Exp. Clin. Cancer Res. 40: 3.

RESEARCH USE

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