

# FAK (B-8): sc-271195

## 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.

## REFERENCES

- Schaller, M.D., et al. 1992. pp125<sup>FAK</sup>, a structurally distinctive protein-tyrosine kinase associated with focal adhesions. *Proc. Natl. Acad. Sci. USA* 89: 5192-5196.
- Lipfert, L., et al. 1992. Integrin-dependent phosphorylation of the protein tyrosine kinase pp125<sup>FAK</sup> 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

FAK (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1019-1052 at the C-terminus of FAK of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FAK (B-8) is available conjugated to agarose (sc-271195 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271195 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271195 PE), fluorescein (sc-271195 FITC), Alexa Fluor® 488 (sc-271195 AF488), Alexa Fluor® 546 (sc-271195 AF546), Alexa Fluor® 594 (sc-271195 AF594) or Alexa Fluor® 647 (sc-271195 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271195 AF680) or Alexa Fluor® 790 (sc-271195 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271195 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## RESEARCH USE

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

## APPLICATIONS

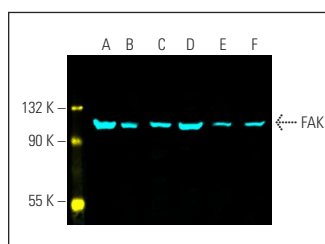
FAK (B-8) is recommended for detection of FAK p125 and FRNK p41 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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).

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.

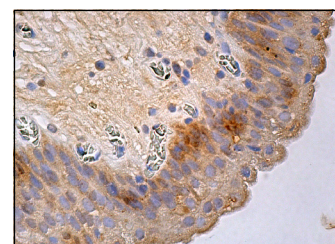
Molecular Weight of FAK: 125 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Ramos cell lysate: sc-2216 or MCF7 whole cell lysate: sc-2206.

## DATA



FAK (B-8) Alexa Fluor® 647: sc-271195 AF647. Direct fluorescent western blot analysis of FAK expression in HEL 92.1.7 (A), Jurkat (B), A549 (C), Ramos (D), MCF7 (E) and HeLa (F) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 488: sc-516790.



FAK (B-8): sc-271195. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells.

## SELECT PRODUCT CITATIONS

- Brockschmidt, A., et al. 2012. KIAA1797/FOCAD encodes a novel focal adhesion protein with tumour suppressor function in gliomas. *Brain* 135: 1027-1041.
- Zhang, Y., et al. 2019. Cyclic hydrostatic compress force regulates apoptosis of meniscus fibrochondrocytes via integrin  $\alpha 5 \beta 1$ . *Physiol. Res.* 68: 639-649.
- Lai, S.W., et al. 2020. Monocarboxylate transporter 4 regulates glioblastoma motility and monocyte binding ability. *Cancers* 12: 380.
- Yao, Z., et al. 2021. CCL2 is a critical mechano-responsive mediator in crosstalk between osteoblasts and bone mesenchymal stromal cells. *FASEB J.* 35: e21851.

## STORAGE

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