

## 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 re-epithelialization 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 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-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-558 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

FAK (C-20) is recommended for detection of FAK p125 and FRNK p41 of mouse, rat, human, chicken, *Xenopus laevis* and zebrafish 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 (C-20) is also recommended for detection of FAK p125 and FRNK p41 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.

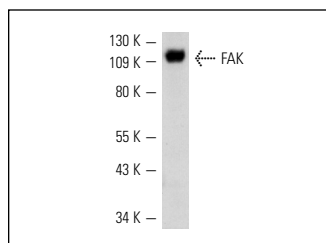
Molecular Weight of FAK: 125 kDa.

Positive Controls: Ramos cell lysate: sc-2216, HeLa whole cell lysate: sc-2200 or SK-BR-3 cell lysate: sc-2218.

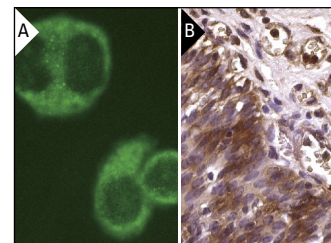
## STORAGE

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

## DATA



FAK (C-20)-G: sc-558-G. Western blot analysis of FAK expression in HeLa whole cell lysate.



FAK (C-20): sc-558 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

- Owen, J., et al. 1999. Induced focal adhesion kinase (FAK) expression in FAK-null cells enhances cell spreading and migration requiring both auto- and activation loop phosphorylation sites and inhibits adhesion-dependent tyrosine phosphorylation of PYK2. *Mol. Cell. Biol.* 19: 4806-4818.
- Jin, Y.P., et al. 2002. Ligation of HLA class I molecules on endothelial cells induces phosphorylation of Src, paxillin and focal adhesion kinase in an Actin-dependent manner. *J. Immunol.* 168: 5415-5423.
- Beggs, H.E., et al. 2003. FAK deficiency in cells contributing to the basal lamina results in cortical abnormalities resembling congenital muscular dystrophies. *Neuron* 40: 501-514.
- Liu, E., et al. 2003. Negative regulation of FAK signaling by SOCS proteins. *EMBO J.* 22: 5036-5046.
- Xie, Z., et al. 2003. Serine 732 phosphorylation of FAK by Cdk5 is important for microtubule organization, nuclear movement, and neuronal migration. *Cell* 114: 108-110.
- Croke, J.M., et al. 2007. The focal adhesion protein Hic-5 is highly expressed in the rat myometrium during late pregnancy and labour and co-localizes with FAK. *Reprod. Biol. Endocrinol.* 5: 22.
- 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.
- Wang, Z.G., et al. 2010. Characterization of novel VEGF (vascular endothelial growth factor)-C splicing isoforms from mouse. *Biochem. J.* 428: 347-354.
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## RESEARCH USE

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