SANTA CRUZ BIOTECHNOLOGY, INC.

FAK (C-903): sc-932

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 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.

REFERENCES

1. Lipfert, L., et al. 1992. Integrin-dependent phosphorylation of the protein tyrosine kinase pp125FAK in platelets. J. Cell Biol. 119: 905-912.
2. Zachary, I., et al. 1992. Bombesin, vasopressin and endothelin stimulation of tyrosine phosphorylation in Swiss 3T3 cells. J. Biol. Chem. 267: 19031-19034.

CHROMOSOMAL LOCATION

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

SOURCE

FAK (C-903) is a rabbit polyclonal antibody raised against amino acids 903-1052 of FAK of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

FAK (C-903) 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 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.

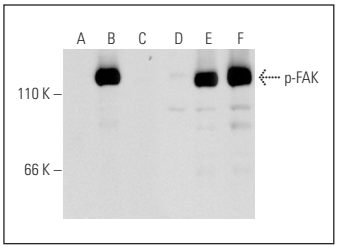
Molecular Weight of FAK: 125 kDa.

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

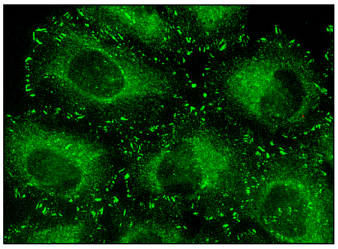
STORAGE

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

DATA



Western blot analysis of FAK phosphorylation in non-transfected: sc-117752 (**A**,**D**), untreated human FAK transfected: sc-114600 (**B**,**E**) and lambda protein phosphatase (sc-200312A) treated human FAK transfected: sc-114600 (**C**,**F**) 293T whole cell lysates. Antibodies tested include p-FAK (Tyr 577)-R: sc-16665-R (**A**,**B**,**C**) and FAK (C-903): sc-932 (**D**,**E**,**F**).



FAK (C-903): sc-932. Immunofluorescence staining of methanol-fixed HeLa cells showing focal adhesion sites and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Polte, T.R., et al. 1995. Interaction between focal adhesion kinase and Crk-associated tyrosine kinase substrate p130Cas. Proc. Natl. Acad. Sci. USA 92: 10678-10682.
2. Kawauchi, T., et al. 2005. MAP1B phosphorylation is differentially regulated by Cdk5/p35, Cdk5/p25, and JNK. Biochem. Biophys. Res. Commun. 331: 50-55.
3. Polykratis, A. 2005. Characterization of heparin affin regulatory peptide signaling in human endothelial cells. J. Biol. Chem. 280: 22454-22461.
4. Humar, B., et al. 2007. Destabilized adhesion in the gastric proliferative zone and c-Src kinase activation mark the development of early diffuse gastric cancer. Cancer Res. 67: 2480-2489.
5. Coyne, C.B., et al. 2007. Poliovirus entry into human brain microvascular cells requires receptor-induced activation of SHP-2. EMBO J. 26: 4016-4028.
6. Eckert, J.M., et al. 2009. Neuregulin-1 β and neuregulin-1 α differentially affect the migration and invasion of malignant peripheral nerve sheath tumor cells. Glia 57: 1501-1520.
7. Jones, R.J., et al. 2009. Src inhibitors in early breast cancer: a methodology, feasibility and variability study. Breast Cancer Res. Treat. 114: 211-221.
8. Ding, L., et al. 2010. Expression of focal adhesion kinase and phosphorylated focal adhesion kinase in human gliomas is associated with unfavorable overall survival. Transl. Res. 156: 45-52.
9. Park, S., et al. 2010. PECAM-1 regulates proangiogenic properties of endothelial cells through modulation of cell-cell and cell-matrix interactions. Am. J. Physiol., Cell Physiol. 299: C1468-C1484.

RESEARCH USE

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