

Technical Data Sheet

Alexa Fluor® 488 Mouse anti-FAK (pS910)

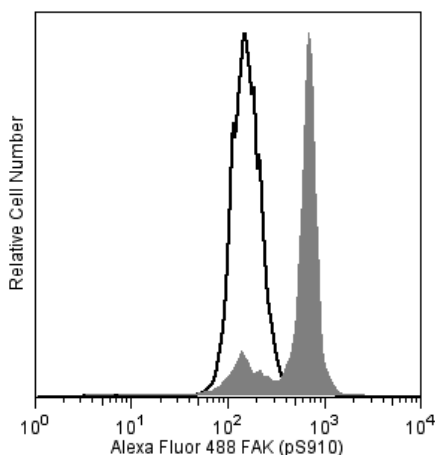
Product Information

Material Number:	558544
Size:	50 tests
Vol. per Test:	20 µl
Clone:	K73-480
Immunogen:	Phosphorylated Human FAK
Isotype:	Mouse (BALB/c) IgG2b, κ
Reactivity:	Confirmed: Human Predicted: Mouse, Rat
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

Focal Adhesion Kinase (FAK) is a cytoplasmic tyrosine kinase that associates with integrins in focal adhesions. Its cellular localization is directed by a 125-amino acid sequence at the C terminus called the "Focal Adhesion Targeting" (FAT) domain, and the phosphorylation state of serine 910 (S910) in the FAT domain may regulate the assembly of focal adhesions. Furthermore, the binding of extracellular matrix ligands to integrins triggers tyrosine phosphorylations near FAK's kinase domain that increase its kinase activity, and additional tyrosine phosphorylations near proline-rich motifs create binding sites for the SH2 domains of various adaptor proteins. FAK's ability to bind numerous structural and signaling proteins via a variety of interactions regulates FAK's targeting to focal adhesions, modulates its kinase activity, and initiates intracellular signaling cascades. Thus, studies suggest that FAK may integrate cellular events controlling cell motility, growth, and invasiveness.

The K73-480 monoclonal antibody recognizes the phosphorylated S910 of human FAK. The orthologous phosphorylation sites in mouse and rat FAK are S948 and S913, respectively.



Analysis of FAK (pS910) in human epithelioid carcinoma. *Hela S3 cells (ATCC CCL 2.2) were either stimulated with Nocodazole at 37 °C for 16 hours (shaded histogram) or unstimulated (open histogram). The cells were fixed (BD Cytotfix™ buffer, Cat. No. 554655) for 10 minutes at 37 °C, then permeabilized (BD™ Phosflow Perm Buffer III, Cat. No. 558050) on ice for at least 30 minutes, and then stained with Alexa Fluor® 488 Mouse anti-FAK (pS910). Flow cytometry was performed on a BD™ FACSCalibur flow cytometry system.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated to Alexa Fluor® 488 under optimum conditions, and unreacted Alexa Fluor® 488 was removed.

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
554655	Fixation Buffer	100 ml	(none)
558050	Perm Buffer III	125 ml	(none)

Product Notices

BD Biosciences

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1. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
2. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1×10^6 cells in a 100- μ l experimental sample (a test).
3. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
4. Alexa Fluor® 488 fluorochrome emission is collected at the same instrument settings as for fluorescein isothiocyanate (FITC).
5. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
6. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
7. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
8. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.

References

Hunger-Glaser I, Perez Salazar E, Sinnott-Smith J, Rozengurt E. Bombesin, lysophosphatidic acid, and epidermal growth factor rapidly stimulate focal adhesion kinase phosphorylation at Ser-910. Requirement for ERK activation. *J Biol Chem.* 2003; 278(25):22631-22643. (Biology)

Ma A, Richardson A, Schaefer EM, Parsons JT. Serine phosphorylation of focal adhesion kinase in interphase and mitosis: A possible role in modulating binding to p130Cas. *Mol Biol Cell.* 2001; 12:1-12. (Biology)

Schlaepfer DD, Mitra SK, Ilic D. Control of motile and invasive cell phenotypes by focal adhesion kinase. *Biochim Biophys Acta.* 2004; 1692:77-102. (Biology)

Yamakita Y, Totsukawa G, Yamashiro S, et al. Dissociation of FAK/c-Src complex during mitosis: Role of mitosis-specific serine phosphorylation of FAK. *J Cell Biol.* 1999; 144(2):315-324. (Biology)