Technical Data Sheet

Alexa Fluor® 647 Mouse anti-FAK (pS910)

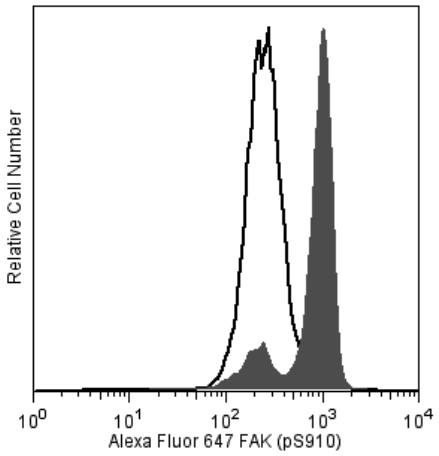
Product Information

Material Number:	**558545**
Size:	50 Tests
Vol. per Test:	20 µl
Clone:	K73-480
Immunogen:	Phosphorylated Human FAK
Isotype:	Mouse (BALB/c) IgG2b, κ
Reactivity:	QC Testing: Human Predicted Reactivity: Mouse, Rat
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

*F*ocal *A*dhesion *K*inase (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 Cytofix™ 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, then stained with Alexa Fluor® 647 Mouse anti-FAK (pS910 Cat. No. 558545). Flow cytometry was performed on a BD FACSCalibur™ flow cytometry system.*

Preparation and Storage

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

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

The antibody was conjugated to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

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Suggested Companion Products

Catalog Number	Name	Size	Clone
558050	Perm Buffer III	125 mL	(none)
554655	Fixation Buffer	100 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
554656	Stain Buffer (FBS)	500 mL	(none)

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. 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.
4. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
5. 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.
6. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
8. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Hunger-Glaser I, Perez Salazar E, Sinnett-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)

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