

## FAK [pY861] Polyclonal Antibody, Rabbit

Store at 2°C to 8°C (short-term), or -20°C (long-term)

**Catalog Number:** 44-626G

**Pub. No.** MAN0010629 **Rev.** 1.00

<b>Clonality:</b> Polyclonal	<b>Quantity:</b> 10 mini-blot	<b>Volume:</b> 100 µL
<b>Host/Class:</b> Rabbit IgG	<b>Reactivity:</b> Human FAK [pY861]	<b>Predicted Reactivity:</b> Mouse, Chicken, Rat, Frog

### Product description

Focal Adhesion Kinase (FAK) is a widely expressed cytoplasmic non-receptor protein tyrosine kinase. It is a substrate for Src and a key element in growth factor and integrin signaling. FAK plays a central role in cell spreading, differentiation, migration, cell death and acceleration of the G1 to S phase transition of the cell cycle. FAK is regulated through phosphorylation at multiple tyrosine and serine residues. Tyrosine 861 in the carboxy terminal region of FAK is a major Src phosphorylation site that promotes the binding of FAK to the cytoplasmic tail integrins.

### Product specifications

<b>Immunogen:</b>	A chemically synthesized phosphopeptide derived from the region of human FAK containing tyrosine 861.
<b>Purification:</b>	Antibody negatively preadsorbed using a non-phosphopeptide then purified by epitope-specific affinity chromatography
<b>Apparent MW:</b>	125 kDa
<b>Gene ID:</b>	5747
<b>Protein Accession No.:</b>	Q05397
<b>Sequence Homology:</b>	Mouse, Rat, Chicken, Frog
<b>Lot:</b>	See product label

### Product applications

The antibody has been used in western blotting (1:1000 dilution) and immunohistochemistry.<sup>5</sup> Other applications may work but have not been tested.

Because conditions may vary, it is recommended that each investigator determine the optimal amount of antibody to be used for each application.

### Storage and handling

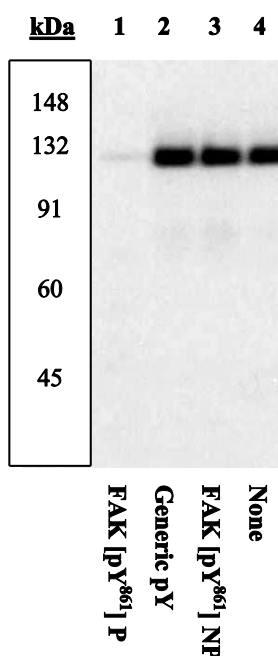
Store the antibody at 2°C to 8°C for up to 1 week, or apportion into working aliquots and keep at -20°C for long-term storage. Avoid repeated freezing and thawing.

### Stability

When stored as instructed, expires one year from date of receipt unless otherwise indicated on the Certificate of Analysis.

**For Research Use Only. Not for use in diagnostic procedures**

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**Figure 1** Antibody-Peptide Competition.

Extracts of primary CEF cells expressing FAK plated on fibronectin were resolved on a 10% Tris-glycine gel and transferred to PVDF. The membrane was blocked with 5% BSA-TBST overnight at 4°C then incubated with the FAK [pY861] antibody for 2 hrs at room temperature in 3% BSA-TBST, following prior incubation with: the phosphopeptide immunogen (lane 1), a generic phosphotyrosine-containing peptide (lane 2), a non-phosphorylated peptide corresponding to the immunogen (lane 3), or no peptide (lane 4). The blots were developed using chemiluminescence (ECL) method with a goat F(ab')<sub>2</sub> anti-rabbit IgG HRP conjugate (Cat. no. ALI4404).

Only the phosphopeptide corresponding to FAK [pY861] blocks the antibody signal (lane 1) demonstrating the specificity of the antibody.

### Positive controls used

Primary chicken embryo fibroblasts (CEF) expressing FAK protein and plated on fibronectin, or A459 whole cell lysate.

## Storage buffer

Dulbecco's phosphate buffered saline (without  $Mg^{2+}$  and  $Ca^{2+}$ ), pH 7.3 (+/- 0.1), 50% glycerol with 1.0 mg/mL BSA (IgG, protease free) as a carrier, and 0.05% sodium azide.



**CAUTION!** Sodium azide is extremely toxic and may react with lead and copper plumbing to form highly explosive metal azides. Properly dispose of solutions containing sodium azide. Read the Safety Data Sheet (SDS) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. SDSs are available at [www.lifetechnologies.com/support](http://www.lifetechnologies.com/support).

## References

1. Eliceiri, B.P., et al. (2002) Src-mediated coupling of focal adhesion kinase to integrin  $\alpha(v)\beta_5$  in vascular endothelial growth factor signaling. *J. Cell Biol.* 157(1):149-160.
2. Hauck, C.R., et al. (2002) v-Src SH3-enhanced interaction with focal adhesion kinase at beta 1 integrin-containing invadopodia promotes cell invasion. *J. Biol. Chem.* 277(15):12487-12490.
3. Lacalle, R.A., et al. (2002) Specific SHP-2 partitioning in raft domains triggers integrin-mediated signaling via Rho activation. *J. Cell Biol.* 157(2):277-289.
4. Lim, Y., et al. (2002) Trichostatin A-induced detransformation correlates with decreased focal adhesion kinase phosphorylation at tyrosine 861 in ras-transformed fibroblasts. *J. Biol. Chem.* 277(15):12735-12740.
5. Melendez, J., et al. (2002) Activation of pyk2/related focal adhesion tyrosine kinase and focal adhesion kinase in cardiac remodeling. *J. Biol. Chem.* 277(47):45203-45210.
6. Rigacci, S., et al. (2002) Low Mr phosphotyrosine protein phosphatase associates and dephosphorylates p125 focal adhesion kinase, interfering with cell motility and spreading. *J. Biol. Chem.* 277(44):41631-41636.
7. Datta, A., et al. (2001) Transformation of chicken embryo fibroblasts by v-src uncouples  $\beta_1$  integrin-mediated outside-in but not inside-out signaling. *Mol. Cell. Biol.* 21(21):7295-7306.
8. Nakamura, K., et al. (2001) Different modes and qualities of tyrosine phosphorylation of Fak and Pyk2 during epithelial-mesenchymal transdifferentiation and cell migration: analysis of specific phosphorylation events using site-directed antibodies. *Oncogene* 20(21):2626-2635.

## Explanation of symbols

Symbol	Description	Symbol	Description	Symbol	Description
	Manufacturer		Catalog number		Batch code
	Use by		Temperature limitation		
	Consult instructions for use		Caution, consult accompanying documents		

## References, continued

9. Rocic, P. and P.A. Lucchesi (2001) Down-regulation by antisense oligonucleotides establishes a role for the proline-rich tyrosine kinase PYK2 in angiotensin ii-induced signaling in vascular smooth muscle. *J. Biol. Chem.* 276(24):21902-21906.
10. Slack, J.K., et al. (2001) Alterations in the focal adhesion kinase/Src signal transduction pathway correlate with increased migratory capacity of prostate carcinoma cells. *Oncogene* 20(10):1152-1163.
11. Sieg, D.J., et al. (2000) FAK integrates growth-factor and integrin signals to promote cell migration. *Nature Cell Biol.* 2(5):249-256.
12. Vial, D., et al. (2000) The NH2 terminal region of FAK reconstitutes high affinity IgE receptor induced secretion in mast cells. *J. Biol. Chem.* 275(36):28269-28275.
13. Wennerberg, K., et al. (2000) The cytoplasmic tyrosines of integrin subunit  $\beta_1$  are involved in focal adhesion kinase activation. *Mol. Cell. Biol.* 20(15):5758-5765.

## Related products

Product Name	Quantity	Cat. No.
SRC [pY418] Polyclonal Antibody, Rabbit	10 blots	44660G
SRC [pY529] Polyclonal Antibody, Rabbit	10 blots	44662G
Pyk2 Antibody Sampler Pack	4 vials	44638G
FAK PSSA Antibody Sample Pack	5 vials	44631G

## Product documentation

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