abcam

Product datasheet

Anti-FAK (phospho Y407) antibody ab4814

1 Image

Overview

Product name	Anti-FAK (phospho Y407) antibody
Description	Rabbit polyclonal to FAK (phospho Y407)
Host species	Rabbit
Specificity	Phosphorylation site-specific antibody selective for the phosphorylated form of the Focal Adhesion Kinase enzyme containing a phosphate on tyrosine 407. The antibody has been shown to recognize Focal Adhesion Kinase (approximately 125 kDa) in chick embryo fibroblast cells plated on fibronectin.
Tested applications	**Suitable for:** WB
Species reactivity	**Reacts with:** Chicken
Immunogen	Synthetic peptide corresponding to FAK (phospho Y407). The sequence is conserved in mouse, rat and chicken.

General notes

Focal Adhesion Kinase is a non-receptor protein tyrosine kinase discovered as a substrate for Src and as a key element of integrin signalling. Focal Adhesion Kinase plays a central role in cell spreading, differentiation, migration, cell death and acceleration of the G1 to S phase transition of the cell cycle. The activity of the phosphorylation site pTyr407 is currently unknown.

The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.

If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7.3 Preservative: 0.05% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.1% BSA

Purity	Immunogen affinity purified
Purification notes	Purified from rabbit serum by sequential epitope-specific chromatography. The antibody has been negatively preadsorbed using (i) a non-phosphopeptide corresponding to the site of phosphorylation to remove antibody that is reactive with non-phosphorylated Focal Adhesion Kinase enzyme and (ii) a generic tyrosine phosphorylated peptide to remove antibody that is reactive with phosphotyrosine, irrespective of the sequence. The final product is generated by affinity chromatography using a Focal Adhesion Kinase-derived peptide that is phosphorylated at tyrosine 407.
Primary antibody notes	Focal Adhesion Kinase is a non-receptor protein tyrosine kinase discovered as a substrate for Src and as a key element of integrin signalling. Focal Adhesion Kinase plays a central role in cell spreading, differentiation, migration, cell death and acceleration of the G1 to S phase transition of the cell cycle. The activity of the phosphorylation site pTyr407 is currently unknown.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab4814 in the following tested applications.

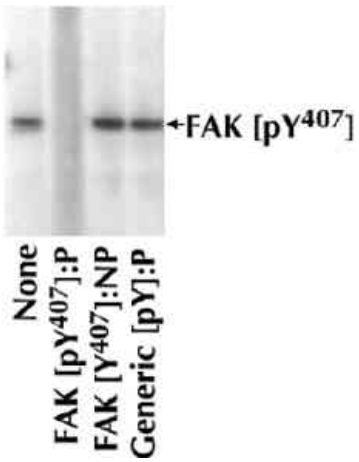
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/1000. Predicted molecular weight: 125 kDa.

Target

Function	Non-receptor protein-tyrosine kinase implicated in signaling pathways involved in cell motility, proliferation and apoptosis. Activated by tyrosine-phosphorylation in response to either integrin clustering induced by cell adhesion or antibody cross-linking, or via G-protein coupled receptor (GPCR) occupancy by ligands such as bombesin or lysophosphatidic acid, or via LDL receptor occupancy. Microtubule-induced dephosphorylation at Tyr-397 is crucial for the induction of focal adhesion disassembly. Plays a potential role in oncogenic transformations resulting in increased kinase activity.
Tissue specificity	Expressed in all organs tested, in lymphoid cell lines, but most abundantly in brain.
Sequence similarities	Belongs to the protein kinase superfamily. Tyr protein kinase family. FAK subfamily. Contains 1 FERM domain. Contains 1 protein kinase domain.
Domain	The first Pro-rich domain interacts with the SH3 domain of CRK-associated substrate (BCAR1) and CASL. The carboxy-terminal region is the site of focal adhesion targeting (FAT) sequence which mediates the localization of FAK1 to focal adhesions.
Post-translational modifications	Phosphorylated on 6 tyrosine residues upon activation. Microtubule-induced dephosphorylation at Tyr-397 could be catalyzed by PTPN11 and regulated by ZFYVE21. Dephosphorylated by PTPN11 upon EPHA2 activation by its ligand EFNA1.
Cellular localization	Cell junction > focal adhesion. Cell membrane. Constituent of focal adhesions.

Images



Western blot - Anti-FAK (phospho Y407) antibody (ab4814)

Cell extracts prepared from chick embryo fibroblasts expressing FAK and plated on fibronectin were resolved by SDS-PAGE on a 4-20% Tris-glycine gel. The proteins were then transferred to nitrocellulose. Membranes were incubated with 0.3 µg/mL ab4814, following prior incubation in the absence (none) or presence of the peptide immunogen, the non-phosphopeptide corresponding to the FAK phosphopeptide, or a generic phosphotyrosine peptide. After washing, membranes were incubated with goat F(ab')2 anti-rabbit IgG alkaline phosphatase and bands were detected using the Tropix WesternStar detection method. The data show that only the phosphopeptide corresponding to this site blocks the antibody signal, therefore demonstrating the specificity of ab4814 for this phosphorylated residue. Cell extracts prepared from chick embryo fibroblasts expressing FAK and plated on fibronectin were resolved by SDS-PAGE on a 4-20% Tris-glycine gel. The proteins were then transferred to

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