abcam

ab247442

Anti-FAK (phospho Y576) antibody [EP1897Y] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EP1897Y
Purification technique	Affinity purification Protein A
Concentration	1.036 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Mouse, Human, Rat, Synthetic peptide
Dilution info	-

Notes	-

IP

Not recommended

Species	Mouse, Human, Rat, Synthetic peptide
Dilution info	-
Notes	-

Dot

Tested

Species	Synthetic peptide
Dilution info	-
Notes	-

Expected

Species	Mouse, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Human, Rat, Synthetic peptide
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Target data

See full target information PTK2 pY576

Function

Non-receptor protein-tyrosine kinase that plays an essential role in regulating cell migration, adhesion, spreading, reorganization of the actin cytoskeleton, formation and disassembly of focal adhesions and cell protrusions, cell cycle progression, cell proliferation and apoptosis. Required for early embryonic development and placenta development. Required for embryonic angiogenesis, normal cardiomyocyte migration and proliferation, and normal heart development. Regulates axon growth and neuronal cell migration, axon branching and synapse formation; required for normal development of the nervous system. Plays a role in osteogenesis and differentiation of osteoblasts. Functions in integrin signal transduction, but also in signaling downstream of numerous growth factor receptors, G-protein coupled receptors (GPCR), EPHA2, netrin receptors and LDL receptors. Forms multisubunit signaling complexes with SRC and SRC family members upon activation; this leads to the phosphorylation of additional tyrosine residues, creating binding sites for scaffold proteins, effectors and substrates. Regulates numerous signaling pathways. Promotes activation of phosphatidylinositol 3-kinase and the AKT1 signaling cascade. Promotes activation of MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling cascade. Promotes localized and transient activation of guanine nucleotide exchange factors (GEFs) and GTPase-activating proteins (GAPs), and thereby modulates the activity of Rho family GTPases. Signaling via CAS family members mediates activation of RAC1. Phosphorylates NEDD9 following integrin stimulation (PubMed:9360983). Recruits the ubiquitin ligase MDM2 to P53/TP53 in the nucleus, and thereby regulates P53/TP53 activity, P53/TP53 ubiquitination and proteasomal degradation.

Phosphorylates SRC; this increases SRC kinase activity. Phosphorylates ACTN1, ARHGEF7, GRB7, RET and WASL. Promotes phosphorylation of PXN and STAT1; most likely PXN and STAT1 are phosphorylated by a SRC family kinase that is recruited to autophosphorylated PTK2/FAK1, rather than by PTK2/FAK1 itself. Promotes phosphorylation of BCAR1; GIT2 and SHC1; this requires both SRC and PTK2/FAK1. Promotes phosphorylation of BMX and PIK3R1. Isoform 6 (FRNK) does not contain a kinase domain and inhibits PTK2/FAK1 phosphorylation and signaling. Its enhanced expression can attenuate the nuclear accumulation of LPXN and limit its ability to enhance serum response factor (SRF)-dependent gene transcription. Isoform 6. Isoform 6 (FRNK) does not contain a kinase domain and inhibits PTK2/FAK1 phosphorylation and signaling. Its enhanced expression can attenuate the nuclear accumulation of LPXN and limit its ability to enhance serum response factor (SRF)-dependent gene transcription.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab247442 is the carrier-free version of ab76120.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Focal Adhesion Kinase (FAK) also known as Protein Tyrosine Kinase 2 (PTK2) is a non-receptor tyrosine kinase. This protein has a molecular weight of approximately 125 kDa. FAK is expressed at high levels in brain muscle and liver tissues. Mechanically FAK plays a role in cellular adhesion and migration by regulating integrin signaling and cell-extracellular matrix interactions. FAK auto-phosphorylates at tyrosine residue 397 creating a binding site for Src family kinases and promoting downstream signaling pathways.
Biological function summary	Focal Adhesion Kinase participates in the formation of focal adhesions which are complexes that connect the cytoskeleton to the extracellular matrix. The FAK protein functions as an important signaling node in these structures allowing for the assembly of multiprotein signal transduction complexes. FAK also controls cellular processes such as spreading motility and survival. The interaction with proteins such as Src kinases paxillin and talin facilitates its biological roles in cell signaling.
Pathways	Focal Adhesion Kinase engages in the regulation of the MAPK/ERK signaling pathway and the PI3K/AKT pathway. These pathways are instrumental for cell proliferation survival and migration. In these pathways FAK interacts with proteins such as PI3K Grb2 and Sos linking integrin-mediated signals with downstream effects that influence cell behavior and survival.
Associated diseases and disorders	Altered FAK signaling has ties to cancer progression and metastasis as well as cardiovascular diseases. In cancer the overexpression of FAK and its interaction with proteins like Src and VEGFR can drive tumor growth and angiogenesis. In cardiovascular diseases improper FAK activation can lead to aberrant heart tissue remodeling and associated pathologies. Abnormalities in FAK signaling pathways can therefore contribute significantly to the development and progression of these diseases.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

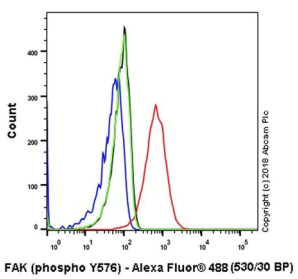
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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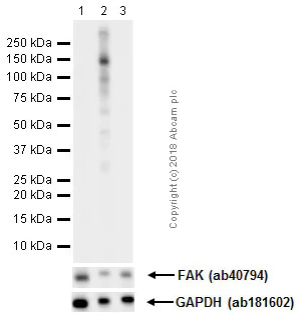
5 product images



Flow Cytometry (Intracellular) - Anti-FAK (phospho Y576) antibody [EP1897Y] - BSA and Azide free (ab247442)

FAK (phospho Y576) Flow Cytometry (Intracellular) staining using rabbit Anti-FAK (phospho Y576) antibody

This data was developed using ab76120, the same antibody clone in a different buffer formulation. Intracellular Flow Cytometry analysis of HeLa cells treated with 1mM Pervanadate for 30mins cells labeling FAK (phospho Y576)with ab76120 at 1/400 dilution (0.1µg) (red). Cells were fixed with 4% paraformaldehyde . Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730 / Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Western blot - Anti-FAK (phospho Y576) antibody [EP1897Y] - BSA and Azide free (ab247442)

FAK (phospho Y576) Western blot staining using rabbit Anti-FAK (phospho Y576) antibody

This data was developed using ab76120, the same antibody clone in a different buffer formulation. **Blocking and dilution buffer:** 5% NFDM/TBST.

All lanes:
Western blot - Anti-FAK (phospho Y576) antibody [EP1897Y] (ab76120) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 10 µg

Lane 2:
HeLa treated with 50nM pervanadate for 60 minutes whole cell lysate at 10 µg

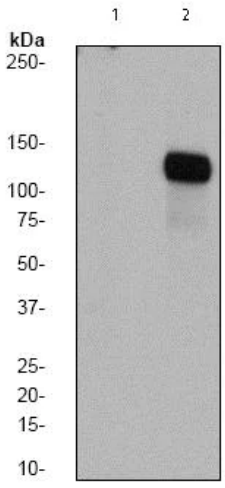
Lane 3:
HeLa treated with 50nM pervanadate for 60 minutes whole cell lysate. Then the membrane was incubated with alkaline phosphatase at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 119 kDa

Observed band size: 125 kDa



Western blot - Anti-FAK (phospho Y576) antibody [EP1897Y] - BSA and Azide free (ab247442)

FAK (phospho Y576) Western blot staining using rabbit Anti-FAK (phospho Y576) antibody

This data was developed using ab76120, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-FAK (phospho Y576) antibody [EP1897Y] (ab76120) at 1/50000 dilution

Lane 1:
3T3 cell lysates untreated at 10 µg

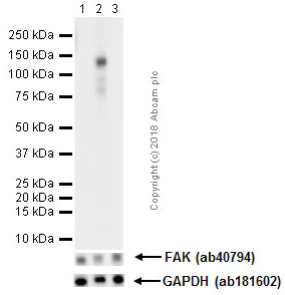
Lane 2:
3T3 cell lysates treated with pervanadate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 119 kDa

Observed band size: 125 kDa



Western blot - Anti-FAK (phospho Y576) antibody [EP1897Y] - BSA and Azide free (ab247442)

FAK (phospho Y576) Western blot staining using rabbit Anti-FAK (phospho Y576) antibody

This data was developed using ab76120, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-FAK (phospho Y576) antibody [EP1897Y] (ab76120) at 1/1000 dilution

Lane 1:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 10 µg

Lane 2:
NIH/3T3 treated with 10mM pervanadate for 20 minutes whole cell lysate at 10 µg

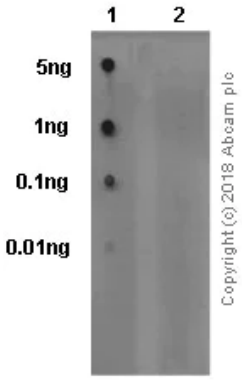
Lane 3:
NIH/3T3 treated with 10mM pervanadate for 20 minutes whole cell lysate. Then the membrane was incubated with alkaline phosphatase at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 119 kDa

Observed band size: 125 kDa



Dot Blot - Anti-FAK (phospho Y576) antibody [EP1897Y] - BSA and Azide free (ab247442)

FAK (phospho Y576) Dot Blot staining using rabbit Anti-FAK (phospho Y576) antibody

This data was developed using ab76120, the same antibody clone in a different buffer formulation. Dot blot analysis of FAK (phospho Y576) phospho peptide (Lane 1) and FAK non-phospho peptide (Lane 2) labelling FAK (phospho Y576) phospho peptide with ab76120 at a dilution of 1/1000 dilution (0.441ug/ml). A Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) was used as the secondary antibody at a dilution of 1/20,000 dilution.

Blocking buffer: 5% NFDM/TBST. Dilution buffer: 5% NFDM /TBST .

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.