abcam

ab233392

Anti-Brk/PTK6 antibody [EPR21051-96]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR21051-96
Purification technique	Affinity purification Protein A
Concentration	0.595 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/600
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target data

See full target information PTK6

Function

Non-receptor tyrosine-protein kinase implicated in the regulation of a variety of signaling pathways that control the differentiation and maintenance of normal epithelia, as well as tumor growth. Function seems to be context dependent and differ depending on cell type, as well as its intracellular localization. A number of potential nuclear and cytoplasmic substrates have been identified. These include the RNA-binding proteins: KHDRBS1/SAM68, KHDRBS2/SLM1, KHDRBS3/SLM2 and SFPQ/PSF; transcription factors: STAT3 and STAT5A/B and a variety of signaling molecules: ARHGAP35/p190RhoGAP, PXN/paxillin, BTK/ATK, STAP2/BKS. Phosphorylates the GTPase-activating protein ARAP1 following EGF stimulation which enhances EGFR signaling by delaying EGFR down-regulation (PubMed:20554524). Also associates with a variety of proteins that are likely upstream of PTK6 in various signaling pathways, or for which PTK6 may play an adapter-like role. These proteins include ADAM15, EGFR, ERBB2, ERBB3 and IRS4. In normal or non-tumorigenic tissues, PTK6 promotes cellular differentiation and apoptosis. In tumors PTK6 contributes to cancer progression by sensitizing cells to

mitogenic signals and enhancing proliferation, anchorage-independent survival and migration/invasion. Association with EGFR, ERBB2, ERBB3 may contribute to mammary tumor development and growth through enhancement of EGF-induced signaling via BTK/AKT and PI3 kinase. Contributes to migration and proliferation by contributing to EGF-mediated phosphorylation of ARHGAP35/p190RhoGAP, which promotes association with RASA1/p120RasGAP, inactivating RhoA while activating RAS. EGF stimulation resulted in phosphorylation of PNX/Paxillin by PTK6 and activation of RAC1 via CRK/CrKII, thereby promoting migration and invasion. PTK6 activates STAT3 and STAT5B to promote proliferation. Nuclear PTK6 may be important for regulating growth in normal epithelia, while cytoplasmic PTK6 might activate oncogenic signaling pathways. Isoform 2. Inhibits PTK6 phosphorylation and PTK6 association with other tyrosine-phosphorylated proteins.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

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.

Supplementary info

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

Activity summary	Brk known also as PTK6 is a non-receptor tyrosine kinase. Its molecular mass is approximately 52 kDa. PTK6 is expressed in various tissues with higher levels found in epithelial tissues such as breast skin and gastrointestinal tissues. Mechanically PTK6 phosphorylates different substrates affecting their function and participating in signal transduction. It acts intracellularly influencing cellular processes like proliferation differentiation and migration.
Biological function summary	PTK6 plays a role in cellular signaling systems influencing growth and survival. It does not belong to a large protein complex but often interacts with several downstream proteins to exert its effects. PTK6 modulates pathways in normal epithelial tissue development and homeostasis. In addition it regulates functions like apoptosis and motility significant for tissue maintenance and repair.
Pathways	PTK6 relates to key signaling cascades such as the MAPK and PI3K-Akt pathways. Within these pathways PTK6 is often associated with proteins like ERK1/2 and Akt which are important for cell survival and growth regulation. PTK6 can activate or inhibit these pathways influencing the cellular response to various stimuli and sometimes altering processes like cell cycle progression.
Associated diseases and disorders	PTK6 has been implicated in the development and progression of certain cancers such as breast and prostate cancer. Elevated PTK6 expression levels have been linked to poor prognosis in these cancers where it appears to enhance tumor cell proliferation and invasion. The kinase interacts with proteins like HER2 and EGFR which are also involved in these cancers potentially affecting therapeutic responses and resistance to treatments.

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

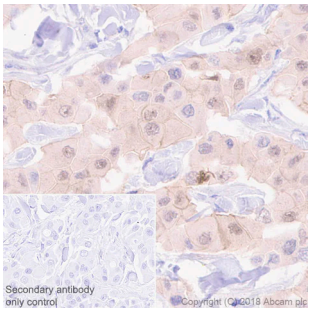
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images

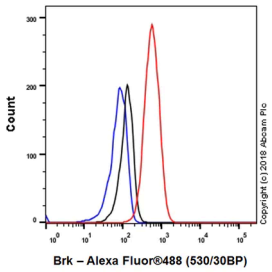


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Brk/PTK6 antibody [EPR21051-96] (ab233392)

Brk/PTK6 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Brk/PTK6 antibody

Immunohistochemical analysis of paraffin-embedded human breast cancer tissue labeling Brk/PTK6 with ab233392 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic and nuclear staining in and membranous staining on human breast cancer cells is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

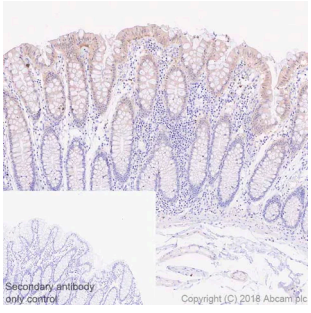
Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).



Flow Cytometry (Intracellular) - Anti-Brk/PTK6 antibody [EPR21051-96] (ab233392)

Brk/PTK6 Flow Cytometry (Intracellular) staining using rabbit Anti-Brk/PTK6 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized T-47D (human ductal breast epithelial tumor cell line) cell line labeling Brk/PTK6 with ab233392 at 1/600 dilution (red) compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/2000 dilution was used as the secondary antibody.

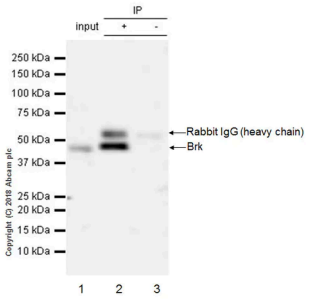


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Brk/PTK6 antibody [EPR21051-96] (ab233392)

Brk/PTK6 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Brk/PTK6 antibody

Immunohistochemical analysis of paraffin-embedded human colon tissue labeling Brk/PTK6 with ab233392 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic and nuclear staining in surface epithelium of human colon (PMID: 10430081) is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).



Immunoprecipitation - Anti-Brk/PTK6 antibody [EPR21051-96] (ab233392)

Brk/PTK6 was immunoprecipitated from 0.35 mg of T-47D (human ductal breast epithelial tumor cell line) whole cell lysate with ab233392 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab233392 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/5000 dilution.
Lane 1: T-47D whole cell lysate 10 µg (Input).

Lane 2: ab233392 IP in T-47D whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab233392 in T-47D whole cell lysate.

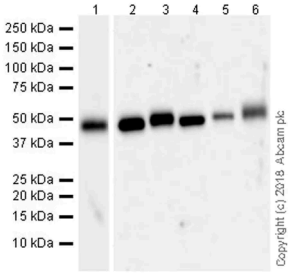
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 minutes.

IgG heavy chain: PMID: 18781181

All lanes:
Immunoprecipitation - Anti-Brk/PTK6 antibody [EPR21051-96] (ab233392)

Predicted band size: 52 kDa



Western blot - Anti-Brk/PTK6 antibody [EPR21051-96] (ab233392)

Exposure time : Lane 1: 15 seconds; Lane 2-6: 3 minutes.
Blocking/Dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-Brk/PTK6 antibody [EPR21051-96] (ab233392) at 1/1000 dilution

Lane 1:
T-47D (human ductal breast epithelial tumor cell line) whole cell lysate at 20 µg

Lane 2:
MCF7 (human breast adenocarcinoma cell line) whole cell lysate at 20 µg

Lane 3:
HT-29 (human colorectal adenocarcinoma cell line) whole cell lysate at 20 µg

Lane 4:
PC-3 (human prostate adenocarcinoma cell line) whole cell lysate at 20 µg

Lane 5:
Human skin lysate at 20 µg

Lane 6:
Human breast cancer lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Developed using the ECL technique.

Predicted band size: 52 kDa

Observed band size: 48 kDa

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