abcam

ab305071

Anti-Eph receptor B4/HTK antibody [EPR23222-2] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR23222-2
Purification technique	Affinity purification Protein A
Concentration	0.985 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information EPHB4

Function	Receptor tyrosine kinase which binds promiscuously transmembrane ephrin-B family ligands residing on adjacent cells, leading to contact-dependent bidirectional signaling into neighboring cells. The signaling pathway downstream of the receptor is referred to as forward signaling while the signaling pathway downstream of the ephrin ligand is referred to as reverse signaling. Together with its cognate ligand/functional ligand EFNB2 it is involved in the regulation of cell adhesion and migration, and plays a central role in heart morphogenesis, angiogenesis and blood vessel remodeling and permeability. EPHB4-mediated forward signaling controls cellular repulsion and segregation from EFNB2-expressing cells.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

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.

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.

Supplementary info

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

Activity summary	The Eph receptor B4 also known as EphB4 or HTK is a protein belonging to the Ephrin receptor subfamily of receptor tyrosine kinases. The receptor has a molecular weight of about 120 kDa. EphB4 typically interacts with its binding partner ephrin-B2 facilitating bidirectional signaling. These complexes reside in the cell membrane and are mainly found in vascular endothelial cells and various tissues including the heart lungs and skin. Notably this receptor plays a role in cellular processes like cell migration and adhesion.
Biological function summary	The Eph receptor B4 is a significant regulator of angiogenesis and vascular development. It forms a critical component of a signaling complex that also includes ephrin-B2. During embryonic development EphB4's interaction with ephrin-B2 guides the proper formation and organization of blood vessels. In adult organisms it remains active in maintaining vascular homeostasis. Additionally this receptor impacts neuronal development and repair through modulating axon guidance and synaptic plasticity.
Pathways	EphB4 engages in various cellular signaling cascades. It features prominently within pathways governing angiogenesis and cell adhesion. EphB4 acts as a central player in the VEGF signaling pathway modulating endothelial cell behavior. The protein’s pathways frequently intersect with other proteins such as FAK and Src influencing cell motility and morphology. Furthermore in the ephrin receptor pathway it cross-talks with other Eph receptors like EphA4 assisting in diverse biological functions.
Associated diseases and disorders	Abnormal Eph receptor B4 activity associates with several pathological conditions. Dysregulation often links to cancer due to its role in neovascularization and tumor progression. Overexpression of EphB4 in tumors like breast and colorectal cancer suggests a contribution to malignancy by supporting angiogenesis and tumor growth. In vascular disorders impaired EphB4-ephrin-B2 signaling may lead to defects in blood vessel formation. Additionally alterations in this receptor are

observed in neurological diseases such as Alzheimer's where EphB4 interacts with tau protein-modifying vascular and neuronal deficiencies.

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

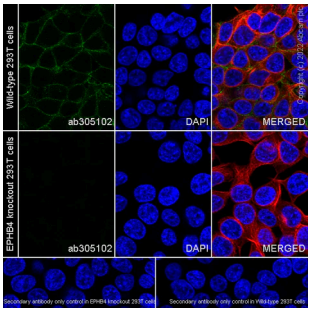
We do not recommend this combination. It is not covered by our product promise.

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.

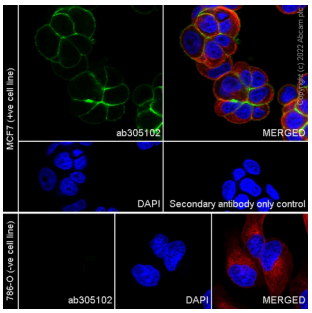
4 product images



Immunocytochemistry/ Immunofluorescence - Anti-Eph receptor B4/HTK antibody [EPR23222-2] - BSA and Azide free (ab305071)

Eph receptor B4/HTK Immunocytochemistry/ Immunofluorescence staining of Human EPHB4 (Eph receptor B4/HTK) knockout HEK-293T cell line using rabbit Anti-Eph receptor B4/HTK antibody

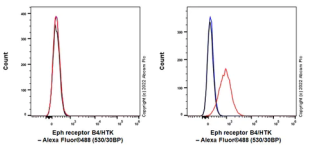
This data was developed using ab305102, the same antibody clone in a different buffer formulation. Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized EPHB4 KO HEK293T (ab266733) cells labelling Eph receptor B4/HTK with ab305102 at 1/100 (5.15 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2ug/ml dilution (Green). Confocal image showing membranous staining in parental HEK293T cell line, but no staining in EPHB4 KO HEK293T cell line.Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2ug/ml dilution.



Immunocytochemistry/ Immunofluorescence - Anti-Eph receptor B4/HTK antibody [EPR23222-2] - BSA and Azide free (ab305071)

Eph receptor B4/HTK Immunocytochemistry/ Immunofluorescence staining of MCF7 (human breast adenocarcinoma epithelial cell) using rabbit Anti-Eph receptor B4/HTK antibody

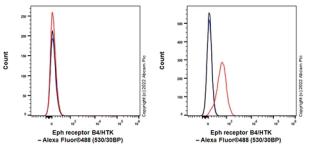
This data was developed using ab305102, the same antibody clone in a different buffer formulation. Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized MCF7 (human breast adenocarcinoma epithelial cell) cells labelling Eph receptor B4/HTK with ab305102 at 1/100 (5.15 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2ug/ml dilution (Green). Confocal image showing membranous staining in MCF-7 cell line.Negative control: 786-O (PMID: 34399807).Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2ug/ml dilution.



Flow Cytometry - Anti-Eph receptor B4/HTK antibody [EPR23222-2] - BSA and Azide free (ab305071)

Eph receptor B4/HTK Flow Cytometry staining using rabbit Anti-Eph receptor B4/HTK antibody

This data was developed using ab305102, the same antibody clone in a different buffer formulation. Flow cytometric analysis of 786-O (human kidney epithelial cell, Left) / MCF7 (human breast adenocarcinoma epithelial cell, Right) cells labelling Eph receptor B4/HTK with ab305102 at 1/50 dilution (1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Gated on viable cells.Negative control: 786-O (PMID: 34399807).



Flow Cytometry - Anti-Eph receptor B4/HTK antibody [EPR23222-2] - BSA and Azide free (ab305071)

Eph receptor B4/HTK Flow Cytometry staining using rabbit Anti-Eph receptor B4/HTK antibody

This data was developed using ab305102, the same antibody clone in a different buffer formulation. Flow cytometric analysis of Wild-type 293T (human embryonic kidney epithelial cell, Right) / Eph receptor B4 knockout 293T (Left) cells labelling Eph receptor B4/HTK with ab305102 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Gated on viable cells. Positive staining on 293T cells (ab255449), while no staining on Eph receptor B4 knockout 293T cells (ab266733).

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