abcam

ab289638

Anti-MERTK antibody [EPR26358-25] - 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	EPR26358-25
Purification technique	Affinity purification Protein A

Reactivity data

ICC/IF

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

Target data

See full target information MERTK

Function	Receptor tyrosine kinase that transduces signals from the extracellular matrix into the cytoplasm by binding to several ligands including LGALS3, TUB, TULP1 or GAS6. Regulates many physiological processes including cell survival, migration, differentiation, and phagocytosis of apoptotic cells (efferocytosis). Ligand binding at the cell surface induces autophosphorylation of MERTK on its intracellular domain that provides docking sites for downstream signaling molecules. Following activation by ligand, interacts with GRB2 or PLCG2 and induces phosphorylation of MAPK1, MAPK2, FAK/PTK2 or RAC1. MERTK signaling plays a role in various processes such as macrophage clearance of apoptotic cells, platelet aggregation, cytoskeleton reorganization and engulfment (PubMed:32640697). Functions in the retinal pigment epithelium (RPE) as a regulator of rod outer segments fragments phagocytosis. Also plays an important role in inhibition of Toll-like receptors (TLRs)-mediated innate immune response by activating STAT1, which selectively induces production of suppressors of cytokine signaling SOCS1 and SOCS3.

Storage

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

Notes

ab289638 is a carrier-free version of ab289636

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	The MERTK protein also known as c-Mer tyrosine kinase plays a mechanical role as a receptor tyrosine kinase with a mass of approximately 110 kDa. It is expressed in multiple tissues including the retina immune cells and some epithelial cells. MERTK functions by binding with its ligands facilitating downstream signaling that affects cellular functions. The receptor is part of the TAM family alongside proteins like AXL and TYRO3.
Biological function summary	The receptor MERTK orchestrates processes critical for maintaining cellular homeostasis such as efferocytosis and immune response regulation. It does not operate alone but often interacts with other cellular components to form functional complexes. This protein contributes significantly to phagocytosis a cellular process for clearing apoptotic cells ensuring a controlled immune environment.
Pathways	Several signal transduction pathways involve c-Mer tyrosine kinase in maintaining cellular communication. Notably it participates in the RAS/MAPK and PI3K/AKT pathways which are essential for cell survival and proliferation. These pathways involve interactions with proteins such as GAB1 and SOS highlighting the receptor's integration in cell signaling networks.
Associated diseases and disorders	Aberrant activity of MERTK has associations with cancer and autoimmune disorders. In cancers such as leukemia overexpression of the MERTK protein promotes cell survival and proliferation. Its interaction with other proteins like GRB2 can further exacerbate oncogenic pathways. In autoimmune diseases dysregulated MERTK expression can lead to improper clearance of apoptotic cells contributing to systemic inflammation.

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.

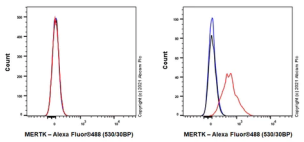
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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2 product images

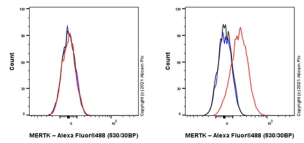


Flow Cytometry - Anti-MERTK antibody [EPR26358-25] - BSA and Azide free (ab289638)

MERTK Flow Cytometry staining using rabbit Anti-MERTK antibody

This data was developed using ab289636, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of HeLa (human cervix adenocarcinoma epithelial cell line, Left) / HepG2 (Human hepatocellular carcinoma epithelial cell line, Right) cells labeling MERTK with ab289636 at 1/500 dilution (Red) compared with Rabbit monoclonal IgG (ab172730) isotype control (Black) 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: HeLa (PMID:32042425).



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Flow cytometric analysis of Wild-type HAP1 (human chronic myelogenous leukemia near-haploid cell line, Right) / MERTK knockout HAP1 (Left) cells labeling MERTK with ab289636 at 1/500 dilution (Red) compared with Rabbit monoclonal IgG (ab172730) isotype control (Black) 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.

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