abcam

ab52591

# Anti-MERTK antibody [A311F9G3]

## Key facts

| | |
|---|---|
| **Isotype** | IgG1 |
| **Host species** | Mouse |
| **Storage buffer** | Preservative: 0.1% Sodium azide Constituents: PBS |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | Recombinant Fragment Protein within Human MERTK. The exact immunogen used to generate this antibody is proprietary information. Database link Q12866 |
| **Clone number** | A311F9G3 |
| **Purification technique** | Affinity purification Protein G |
| **Light chain type** | kappa |
| **Concentration** | 1 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## Flow Cyt

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1 µg for $10^6$ Cells |
| **Notes** | ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody. |

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/1000 |
| **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 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 |

## 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**

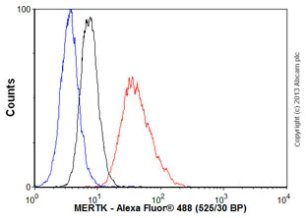
We do not recommend this combination. It is not covered by our product promise.

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.

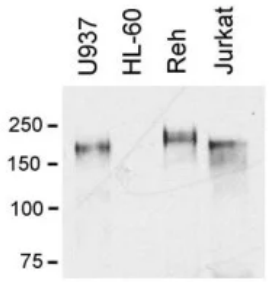
## 2 product images




### Flow Cytometry - Anti-MERTK antibody [A311F9G3] (ab52591)

MERTK Flow Cytometry staining using mouse Anti-MERTK antibody

Overlay histogram showing HEK293 cells stained with ab52591 (red line). The cells were fixed with 80% methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab52591, 1µg/1x$10^6$ cells) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-mouse IgG (H&L) (ab150113) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 1µg/1x$10^6$ cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.




### Western blot - Anti-MERTK antibody [A311F9G3] (ab52591)

MERTK Western blot staining using mouse Anti-MERTK antibody

ab52591 used at 1/1000
All lanes:
Western blot - Anti-MERTK antibody [A311F9G3] (ab52591)

Predicted band size: 110 kDa

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