abcam

ab306575

Alexa Fluor® 647 Anti-TIE2 antibody [EPR21915]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR21915
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human

Dilution info	1/100
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/5000
Notes	-

Expected

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

Flow Cyt

Expected

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

Target data

See full target information TEK

Function	Tyrosine-protein kinase that acts as a cell-surface receptor for ANGPT1, ANGPT2 and ANGPT4 and regulates angiogenesis, endothelial cell survival, proliferation, migration, adhesion and cell spreading, reorganization of the actin cytoskeleton,

but also maintenance of vascular quiescence. Has anti-inflammatory effects by preventing the leakage of pro-inflammatory plasma proteins and leukocytes from blood vessels. Required for normal angiogenesis and heart development during embryogenesis. Required for post-natal hematopoiesis. After birth, activates or inhibits angiogenesis, depending on the context. Inhibits angiogenesis and promotes vascular stability in quiescent vessels, where endothelial cells have tight contacts. In quiescent vessels, ANGPT1 oligomers recruit TEK to cell-cell contacts, forming complexes with TEK molecules from adjoining cells, and this leads to preferential activation of phosphatidylinositol 3-kinase and the AKT1 signaling cascades. In migrating endothelial cells that lack cell-cell adhesions, ANGT1 recruits TEK to contacts with the extracellular matrix, leading to the formation of focal adhesion complexes, activation of PTK2/FAK and of the downstream kinases MAPK1/ERK2 and MAPK3/ERK1, and ultimately to the stimulation of sprouting angiogenesis. ANGPT1 signaling triggers receptor dimerization and autophosphorylation at specific tyrosine residues that then serve as binding sites for scaffold proteins and effectors. Signaling is modulated by ANGPT2 that has lower affinity for TEK, can promote TEK autophosphorylation in the absence of ANGPT1, but inhibits ANGPT1-mediated signaling by competing for the same binding site. Signaling is also modulated by formation of heterodimers with TIE1, and by proteolytic processing that gives rise to a soluble TEK extracellular domain. The soluble extracellular domain modulates signaling by functioning as decoy receptor for angiopoietins. TEK phosphorylates DOK2, GRB7, GRB14, PIK3R1; SHC1 and TIE1.

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, Store in the dark

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.

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Supplementary info

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

Activity summary	TIE2 also known as TEK or CD202B is a receptor tyrosine kinase with a mass of approximately 145 kDa. It plays an important role in vascular development and maintenance. TIE2 is mainly expressed in endothelial cells which line the interior surface of blood vessels. It binds angiopoietins predominantly Angiopoietin-1 (Angpt1) influencing vascular stability and permeability. Researchers use TIE2 antibodies including anti-TIE and anti-clone to study its role and functions across various contexts.
Biological function summary	TIE2 plays a central role in angiogenesis and blood vessel maturation. It forms a receptor complex with other components to mediate its effects. This interaction mainly involves Angpt1 which binds to TIE2 stabilizing blood vessels and preserving their integrity. TIE2 also participates in cell survival and migration processes necessary for normal vascular function. Researchers often perform Angpt1 ELISA in bulk to quantify interactions involving TIE2 in experiments.
Pathways	TIE2 is important in the angiopoietin-TIE signaling pathway regulating vascular development. TIE2 is related to proteins such as Angpt1 which are centrally involved in this pathway. It also interacts with various signaling molecules including phosphatidylinositol-3-kinase (PI3K) which contributes to cell survival pathways. Alterations in the TIE2 signaling cascade can lead to aberrant angiogenesis and related pathologies.
Associated diseases and disorders	TIE2 is implicated in several vascular diseases and cancer. Mutations or dysregulation of TIE2 can result in venous malformations and further compromise blood vessel integrity. In cancer TIE2 expression can influence tumor angiogenesis enhancing tumor growth and metastasis. TIE2 interacts with proteins like vascular endothelial growth factor (VEGF) which are involved in neovascularization and

cancer progression. Understanding these interactions helps target therapeutic strategies in relevant 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

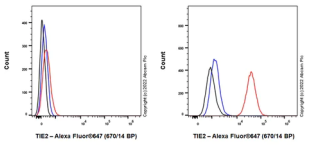
We do not recommend this combination. It is not covered by our product promise.

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.

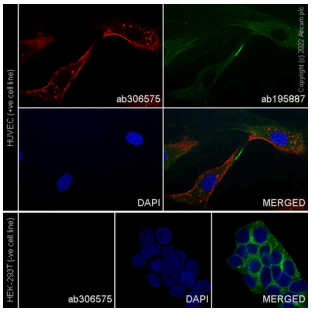
2 product images



Flow Cytometry (Intracellular) - Alexa Fluor® 647 Anti-TIE2 antibody [EPR21915] (ab306575)

TIE2 Flow Cytometry (Intracellular) staining of 293T (human embryonic kidney epithelial cell, Left) / HUVEC (human umbilical vein endothelial cell, Right) using rabbit Anti-TIE2 antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized 293T (human embryonic kidney epithelial cell, Left) / HUVEC (human umbilical vein endothelial cell, Right) cells labelling TIE2 with ab306575 at 1/5000 dilution (0.01ug) (Red) (Red) compared with a Rabbit IgG monoclonal [EPR25A] - Isotype Control (Alexa Fluor® 647) (ab199093) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Negative control: HEK-293T (PMID: 17189382).



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-TIE2 antibody [EPR21915] (ab306575)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HUVEC (human umbilical vein endothelial cell) cells labelling TIE2 with ab306575 at 1/100 (5.0 µg/ml) dilution. Confocal image showing membranous and cytoplasmic staining in HUVEC cells.Negative control: HEK-293T (PMID: 17189382). ab195887 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 488) was used to counterstain tubulin at 1/200 2.5µg/ml dilution (Red). The Nuclear counterstain was DAPI (Blue).

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