

Anti-TIE2 Antibody
Catalog # ABO12721**Specification**

Anti-TIE2 Antibody - Product Information

| | |
|-------------------|------------------------|
| Application | WB |
| Primary Accession | Q02763 |
| Host | Rabbit |
| Reactivity | Human |
| Clonality | Polyclonal |
| Format | Lyophilized |

Description

Rabbit IgG polyclonal antibody for Angiopoietin-1 receptor(TEK) detection. Tested with WB in Human.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-TIE2 Antibody - Additional Information

Gene ID 7010

Other Names

Angiopoietin-1 receptor, 2.7.10.1, Endothelial tyrosine kinase, Tunica interna endothelial cell kinase, Tyrosine kinase with Ig and EGF homology domains-2, Tyrosine-protein kinase receptor TEK, Tyrosine-protein kinase receptor TIE-2, hTIE2, p140 TEK, CD202b, TEK, TIE2, VMCM, VMCM1

Calculated MW

125830 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization

Cell membrane; Single-pass type I membrane protein. Cell junction. Cell junction, focal adhesion. Cytoplasm, cytoskeleton. Secreted. Recruited to cell-cell contacts in quiescent endothelial cells. Colocalizes with the actin cytoskeleton and at actin stress fibers during cell spreading. Recruited to the lower surface of migrating cells, especially the rear end of the cell. Proteolytic processing gives rise to a soluble extracellular domain that is secreted.

Tissue Specificity

Detected in umbilical vein endothelial cells. Proteolytic processing gives rise to a soluble extracellular domain that is detected in blood plasma (at protein level). Predominantly expressed in endothelial cells and their progenitors, the angioblasts. Has been directly found in placenta and lung, with a lower level in umbilical vein endothelial cells, brain and kidney. .

Protein Name

Angiopoietin-1 receptor

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg NaN₃.

Immunogen

E.coli-derived human TIE2 recombinant protein (Position: Q641-I830). Human TIE2 shares 91% amino acid (aa) sequence identity with mouse TIE2.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the protein kinase superfamily. Tyr protein kinase family. Tie subfamily.

Anti-TIE2 Antibody - Protein Information

Name TEK ([HGNC:11724](#))

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, ANGPT1 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.

Cellular Location

Cell membrane; Single-pass type I membrane protein. Cell junction. Cell junction, focal adhesion. Cytoplasm, cytoskeleton. Secreted. Note=Recruited to cell-cell contacts in quiescent endothelial cells (PubMed:18425119, PubMed:18425120) Colocalizes with the actin cytoskeleton and at actin stress fibers during cell spreading. Recruited to the lower surface of migrating cells, especially the rear end of the cell. Proteolytic processing gives rise to a soluble extracellular domain that is

secreted (PubMed:11806244).

Tissue Location

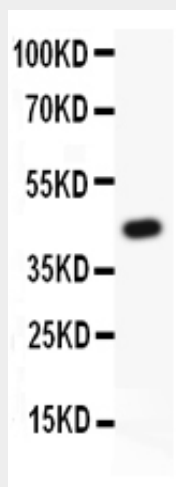
Detected in umbilical vein endothelial cells. Proteolytic processing gives rise to a soluble extracellular domain that is detected in blood plasma (at protein level). Predominantly expressed in endothelial cells and their progenitors, the angioblasts Has been directly found in placenta and lung, with a lower level in umbilical vein endothelial cells, brain and kidney

Anti-TIE2 Antibody - Protocols

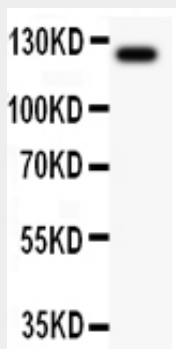
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-TIE2 Antibody - Images



Anti-TIE2 Picoband antibody, ABO12721-1.jpg All lanes: Anti TIE2 (ABO12721) at 0.5ug/ml WB: Recombinant Human TIE2 Protein 0.5ng Predicted bind size: 47KD Observed bind size: 47KD



Anti-TIE2 Picoband antibody, ABO12721-2.jpg All lanes: Anti TIE2 (ABO12721) at 0.5ug/ml WB:

MCF-7 Whole Cell Lysate at 40ug Predicted bind size: 125KD Observed bind size: 125KD

Anti-TIE2 Antibody - Background

TIE2, also known as TEK tyrosine kinase, TIE2 gene is mapped to 9p21.2. This gene encodes a receptor that belongs to the protein tyrosine kinase Tie2 family. The encoded protein possesses a unique extracellular region that contains two immunoglobulin-like domains, three epidermal growth factor (EGF)-like domains and three fibronectin type III repeats. The ligand angiopoietin-1 binds to this receptor and mediates a signaling pathway that functions in embryonic vascular development. Immunoblotting showed that TIE2 expression was increased by thyroid-stimulating hormone and agents that increased intracellular cAMP. HSCs expressing the receptor tyrosine kinase TIE2 are quiescent and antiapoptotic and comprise a side population of HSCs that adhere to osteoblasts in the bone marrow niche.