



Rabbit Anti-TIE2 antibody

SL1300R

Product Name:	TIE2
Chinese Name:	血管生成素受体2抗体
Alias:	Tie-2; Tie2; Tek; Angiopoietin-1 receptor; Tyrosine-protein kinase receptor TIE-2; hTIE2; Tyrosine-protein kinase receptor TEK; Tunica interna endothelial cell kinase; p140 TEK; Angiopoietin 1 receptor; CD202b; CD202b antigen; Endothelial tyrosine kinase; Endothelium specific receptor tyrosine kinase 2; hTIE 2; Hyk; Soluble TIE2 variant 1; Soluble TIE2 variant 2; tek tyrosine kinase; TEK tyrosine kinase endothelial; tek tyrosine kinase, endothelial; TIE 2; TIE2_HUMAN; 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; Tyrosine-protein kinase receptor TIE-2; Venous malformations multiple cutaneous and mucosal; VMCM 1; VMCM; VMCM1; CD202b.
文献引用 PubMed :	<p>Specific References(4) SL1300R has been referenced in 4 publications.</p> <p>[IF=2.84]Zhao, Qiuchen, et al. "Intranasal administration of Human umbilical cord mesenchymal stem cells-conditioned medium enhances vascular remodeling after stroke." Brain Research (2015).WB;Rat. PubMed:26279113</p> <p>[IF=3.37]Tekari, Adel, et al. "Angiopoietin-1 receptor Tie2 distinguishes multipotent differentiation capability in bovine coccygeal nucleus pulposus cells." Stem Cell Research and Therapy (2016).FCM;Bovine. PubMed:27216150</p> <p>[IF=2.11]Li, Xiang, et al. "Expression of angiopoietins in central nervous system hemangioblastomas is associated with cyst formation." Neuroscience Letters (2016).WB, IHC-P;Human.</p>

	<p style="text-align: right;">PubMed:28041961</p> <p>[IF=2.11]Xiang, Jie, et al. "Full Title: Bone marrow mesenchymal stem cells-conditioned medium enhances vascular remodeling after stroke in type 2 diabetic rats." Neuroscience Letters (2017).WB, IHC-P;Rat.</p> <p style="text-align: right;">PubMed:28219791</p>
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Pig,Cow,Horse,
Applications:	ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800Flow-Cyt=3ug/TestIF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	124kDa
Cellular localization:	cytoplasmicThe cell membraneSecretory protein
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human Tie2:401-550/1120<Extracellular>
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	<p>The TEK receptor tyrosine kinase is expressed almost exclusively in endothelial cells in mice, rats, and humans. This receptor possesses a unique extracellular domain containing 2 immunoglobulin-like loops separated by 3 epidermal growth factor-like repeats that are connected to 3 fibronectin type III-like repeats. The ligand for the receptor is angiopoietin-1. Defects in TEK are associated with inherited venous malformations; the TEK signaling pathway appears to be critical for endothelial cell-smooth muscle cell communication in venous morphogenesis.TEK is closely related to the TIE receptor tyrosine kinase.</p> <p>Function: Tyrosine-protein kinase that acts as 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 proinflammatory 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,</p>

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.

Subunit:

Homodimer. Heterodimer with TIE1. Interacts with ANGPT1, ANGPT2 and ANGPT4. At cell-cell contacts in quiescent cells, forms a signaling complex composed of ANGPT1 plus TEK molecules from two adjoining cells. In the absence of endothelial cell-cell contacts, interaction with ANGPT1 mediates contacts with the extracellular matrix. Interacts with PTPRB; this promotes endothelial cell-cell adhesion. Interacts with DOK2, GRB2, GRB7, GRB14, PIK3R1 and PTPN11/SHP2. Colocalizes with DOK2 at contacts with the extracellular matrix in migrating cells. Interacts (tyrosine phosphorylated) with TNIP2. Interacts (tyrosine phosphorylated) with SHC1 (via SH2 domain).

Subcellular Location:

Cell membrane; Single-pass type I membrane protein. Cell junction. Cell junction, focal adhesion. Cytoplasm, cytoskeleton. 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.

Post-translational modifications:

Proteolytic processing leads to the shedding of the extracellular domain (soluble TIE-2 alias sTIE-2). Autophosphorylated on tyrosine residues in response to ligand binding. Autophosphorylation occurs in trans, i.e. one subunit of the dimeric receptor phosphorylates tyrosine residues on the other subunit. Autophosphorylation occurs in a

sequential manner, where Tyr-992 in the kinase activation loop is phosphorylated first, followed by autophosphorylation at Tyr-1108 and at additional tyrosine residues. ANGPT1-induced phosphorylation is impaired during hypoxia, due to increased expression of ANGPT2. Phosphorylation is important for interaction with GRB14, PIK3R1 and PTPN11. Phosphorylation at Tyr-1102 is important for interaction with SHC1, GRB2 and GRB7. Phosphorylation at Tyr-1108 is important for interaction with DOK2 and for coupling to downstream signal transduction pathways in endothelial cells. Dephosphorylated by PTPRB. Ubiquitinated. The phosphorylated receptor is ubiquitinated and internalized, leading to its degradation.

DISEASE:

Defects in TEK are a cause of dominantly inherited venous malformations (VMCM) [MIM:600195]; an error of vascular morphogenesis characterized by dilated, serpiginous channels.

Note=May play a role in a range of diseases with a vascular component, including neovascularization of tumors, psoriasis and inflammation.

Similarity:

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

Contains 3 EGF-like domains.

Contains 3 fibronectin type-III domains.

Contains 2 Ig-like C2-type (immunoglobulin-like) domains.

Contains 1 protein kinase domain.

SWISS:

Q02763

Gene ID:

7010

Database links:

[Entrez Gene: 7010](#)Human

[Entrez Gene: 21687](#)Mouse

[Omim: 600221](#)Human

[SwissProt: Q02763](#)Human

[SwissProt: Q02858](#)Mouse

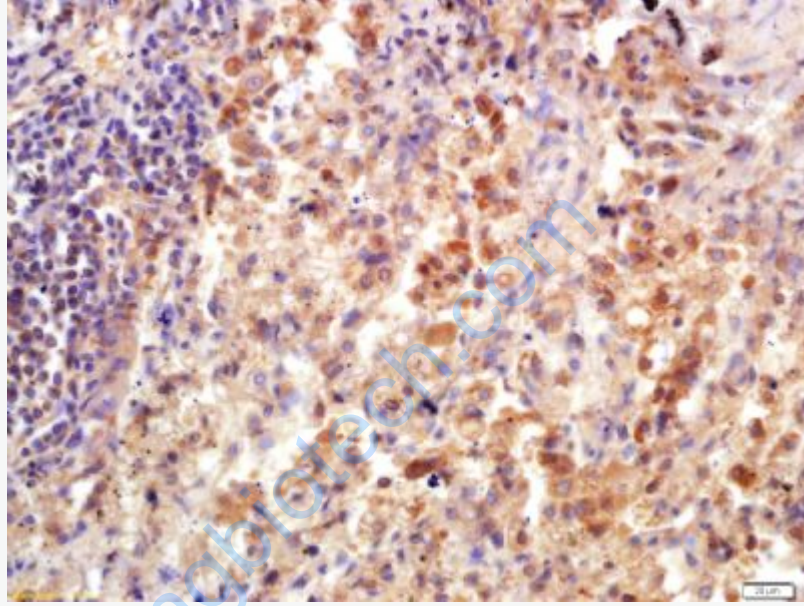
[Unigene: 89640](#)Human

[Unigene: 14313](#)Mouse

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Tie2 是血管内皮特异性的酪氨酸激酶型受体, 主要表达在肺血管内皮以及卵泡、创口肉芽组织等血管内皮. 在血管发育中起重要的调节作用.

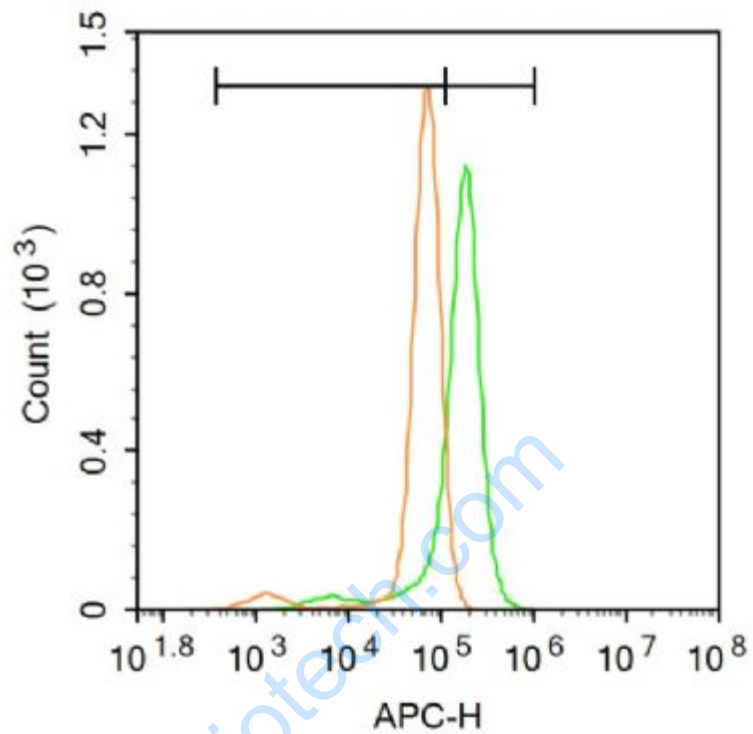


Picture:

Tissue/cell: human lung carcinoma; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-Tie 2 Polyclonal Antibody, Unconjugated(SL1300R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Blank control (Black line): HUVEC (Black).

Primary Antibody (green line): Rabbit Anti-TIE2 antibody (SL1300R)

Dilution: $1\mu\text{g} / 10^6$ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-AF647

Dilution: $1\mu\text{g} / \text{test}$.

Protocol

The cells were fixed with 4% PFA (10min at room temperature) and then permeabilized with 20% PBST for 20 min at room temperature. The cells were then incubated in 5% BSA to block non-specific protein-protein interactions for 30 min at room temperature. Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature.

	Acquisition of 20,000 events was performed.
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