ARG41920
anti-TIE2 antibody

Package: 50 µg
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes TIE2
Tested Reactivity	Hu, Ms, Rat
Tested Application	FACS, ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	TIE2
Species	Human
Immunogen	Recombinant protein corresponding to A23-R616 of Human TIE2.
Conjugation	Un-conjugated
Alternate Names	Endothelial tyrosine kinase; VMCM1; VMCM; hTIE2; Tyrosine-protein kinase receptor TEK; Tyrosine-protein kinase receptor TIE-2; CD antigen CD202b; Tunica interna endothelial cell kinase; Tyrosine kinase with Ig and EGF homology domains-2; p140 TEK; TIE2; CD202B; EC 2.7.10.1; TIE-2; Angiopoietin-1 receptor

Application Instructions

Application table

Application	Dilution
FACS	1:150 - 1:500
ICC/IF	1:200 - 1:1000
IHC-P	1:200 - 1:1000
WB	1:500 - 1:2000

Application Note: IHC-P: Antigen Retrieval: Heat mediation was performed in Citrate buffer (pH 6.0, epitope retrieval solution) for 20 min.
* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Observed Size: ~ 160 kDa

Properties

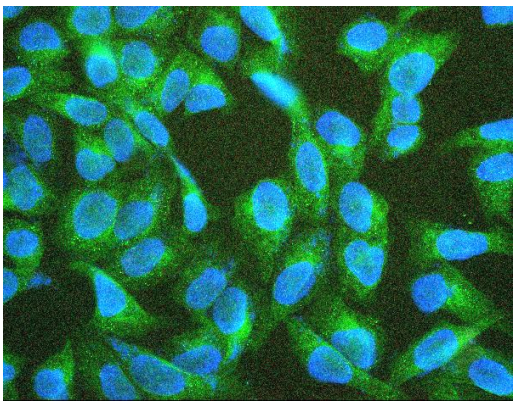
Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	0.2% Na2HPO4, 0.9% NaCl, 0.05% Sodium azide and 4% Trehalose.
Preservative	0.05% Sodium azide
Stabilizer	4% Trehalose

Concentration	0.5 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

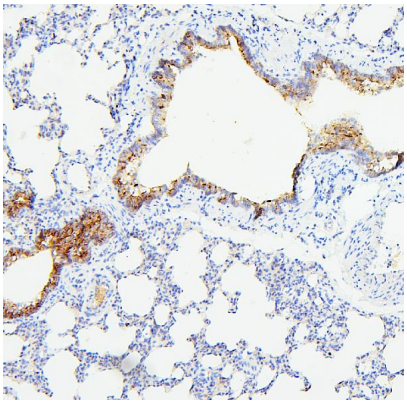
Gene Symbol	TEK
Gene Full Name	TEK tyrosine kinase, endothelial
Background	This gene encodes a receptor that belongs to the protein tyrosine kinase Tie2 family. The encoded protein possesses a unique extracellular region that contains two immunoglobulin-like domains, three epidermal growth factor (EGF)-like 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. Mutations in this gene are associated with inherited venous malformations of the skin and mucous membranes. Alternative splicing results in multiple transcript variants. Additional alternatively spliced transcript variants of this gene have been described, but their full-length nature is not known. [provided by RefSeq, Feb 2014]
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, 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. [UniProt]
Calculated Mw	126 kDa
PTM	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. [UniProt]
Cellular Localization	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. 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. [UniProt]

Images



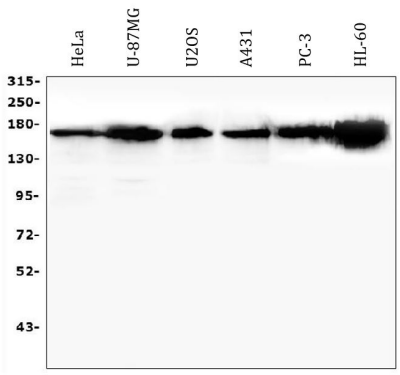
ARG41920 anti-TIE2 antibody ICC/IF image

Immunofluorescence: U2OS cells stained with ARG41920 anti-TIE2 antibody (green) at 2 µg/ml dilution, overnight at 4°C. DAPI (blue) for nuclear staining.



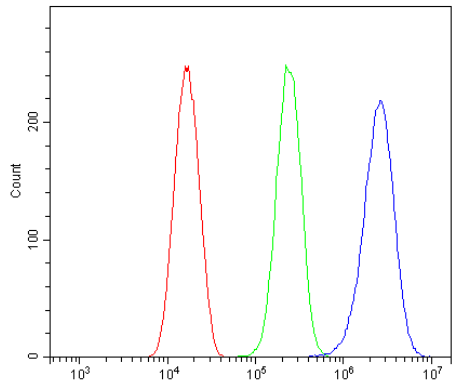
ARG41920 anti-TIE2 antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Rat lung tissue. Antigen Retrieval: Heat mediation was performed in Citrate buffer (pH 6.0, epitope retrieval solution) for 20 min. The tissue section was blocked with 10% goat serum. The tissue section was then stained with ARG41920 anti-TIE2 antibody at 1 µg/ml dilution, overnight at 4°C.



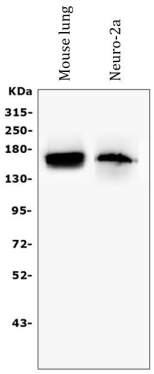
ARG41920 anti-TIE2 antibody WB image

Western blot: 50 µg of samples under reducing conditions. HeLa, U-87MG, U2OS, A431, PC-3 and HL-60 whole cell lysates stained with ARG41920 anti-TIE2 antibody at 0.5 µg/ml dilution, overnight at 4°C.



ARG41920 anti-TIE2 antibody FACS image

Flow Cytometry: HeLa cells were blocked with 10% normal goat serum and then stained with ARG41920 anti-TIE2 antibody (blue) at 1 µg/10^6 cells for 30 min at 20°C, followed by incubation with Alexa Fluor® 488 labelled secondary antibody. Isotype control antibody (green) was Rabbit IgG (1 µg/10^6 cells) used under the same conditions. Unlabelled sample (red) was also used as a control.



ARG41920 anti-TIE2 antibody WB image

Western blot: 50 µg of samples under reducing conditions. Mouse lung and Mouse Neuro-2a whole cell lysates stained with ARG41920 anti-TIE2 antibody at 0.5 µg/ml dilution, overnight at 4°C.