

Product Specification Sheet

**Tyrosine Protein Kinase Receptor/Tunica internal endothelial cell kinase
(TIE-2/Angiopoietin 1 receptor/TEK (p140 TEK) Antibodies**

Cat. TIE21-A	Rabbit Anti-Human Tie-2 IgG # 1(aff pure)	SIZE: 100 ug
Cat. TIE21-P	Human Tie-2 Control/ blocking peptide	SIZE: 100 ug

Embryonic vascular system undergoes a series of complex, highly regulated series of events involving differentiation, migration and association of primitive endothelial cells. This process is termed vasculogenesis. A further remodeling of the primitive vascular system forms the mature cardiovascular system. This process is known as angiogenesis (sprouting of new capillary vessels from pre-existing vasculature). A family of receptor tyrosine kinases **TIE1** and **TIE 2** or Tek has been identified in vascular endothelium and hematopoietic cells. Mice lacking TIE 1 or TIE 2 are lethal. Ties may represent the earliest endothelial cell lineage marker and may regulate the endothelial cell proliferation, differentiation, and proper patterning during vasculogenesis. TIEs appear to be acting downstream of the VEGFRs. **Tie-2** (human 1124 AA; mouse 1122 aa) is a type 1 membrane receptor protein specifically expressed in developing vascular endothelial cells and their progenitors, angioblasts. It is also found in placenta and lung, with lower levels in umbilical vein endothelial cells, brain and kidney. Tie-2 extracellular portion (25-279 aa) contains 3 fibronectin type III-like and 2 Ig-like C2-type, and 3-EGF-like domains.

Function: This protein is a protein tyrosine-kinase transmembrane receptor for angiopoietin 1. It may constitute the earliest mammalian endothelial cell lineage marker. Probably regulates endothelial cell proliferation, differentiation and guides the proper patterning of endothelial cells during blood vessel formation.

Subcellular Location: Membrane; Single-pass type I membrane protein.

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

Protein name Angiopoietin-1 receptor [Precursor]

Synonyms EC 2.7.10.1, Tyrosine-protein kinase receptor TIE-2 hTIE2, Tyrosine-protein kinase receptor TEK, p140 TEK Tunica interna endothelial cell kinase, CD202b antigen

Gene name Name: TEK; Synonyms: TIE2

Source of Antigen and Antibodies

Antigen	20aa peptide of Human TIE2; (protein accession #Q02763 , refs 1) Designated (TIE21-P or control peptide). ; conjugated to KLH; Epitope location ~C-terminal, Cytoplasmic
Ab Host/type	Rabbit, polyclonal Aff pure IgG (cat #TIE21-A) purified over the antigen column
2-ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20°C and powder at 4°C or -20°C..

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1-10 ug/ml for affinity pure using Chemiluminescence technique). Tie-2 is ~140 kDa.

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 2-20 ug/ml in formaldehyde fixed tissue.

Specificity & Cross-reactivity

Human TIE21-P is 100% conserved in mouse, rat, frog and bovine. Antibody crossreactivity in various species is not established. The Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity

General References: (1) Ziegler SF et al (1993) Oncogene 8, 663; Vikkula M et al (1996) Cell 87, 1181; Sato TN et al (1993) PNAS 90, 12056; Dumont DJ et al (1993) Oncogene 8, 1293; Horita K et al (1992) BBRC 189, 1747; Runtig AS et al (1993) Growth factors 9, 99; Dumont DJ et al (1992) Oncogene 8, 1471.

**This product is for in vitro research use only.*

Related material available from ADI

Antibodies to Ang-1, Ang-2, Tie-1, Tie-2, Recombinant Mouse and Human VEGFs, Anti-flk-1, Flt-1, and Flt-4 (VEGFRs 1-3)

Western Blot recycling kit (Use the same blot to probe with multiple antibodies Ang-1 and Ang-2, etc.) **recycle blot at room temp in 5-10 min;** No mercaptoethanol or heating required).

TIE21-A-P 70926J

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