

TIE-2 Protein, Rhesus Macaque (HEK293, His)

Cat. No.:	HY-P77232
Synonyms:	Angiopoietin-1 receptor; CD202b antigen; CD202b; hTIE2; p140 TEK; TEK; Tie-2; VMCM; VMCM1
Species:	Rhesus Macaque
Source:	HEK293
Accession:	XP_001105270 (A23-K745)
Gene ID:	707455
Molecular Weight:	Approximately 115 kDa.

PROPERTIES

AA Sequence

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AMDLILINSL   PLVSDAETSL   TCIASGWHPH   EPITIGRDFE
ALMNQHQPDL   EVTQDVTREW   AKKVVWKREK   ASKINGAYFC
EGRVARGEAIR   IRTMKMRQQA   SFLPATLTMT   VDKGDNVNIS
FKKVLIKEED   AVIYKNGSFI   HSVPRHEVPD   ILEVHLPHAQ
PQDAGVYSAR   YIGGNLFTSA   FTRLIVRRCE   AQKWGPECNR
LCTVCVNNGV   CHEDTGECIC   PPGFMGRTCE   KACEQHTFGR
TCKERCSGQD   GCKSYVFCLP   DPYGCSCATG   WKGLQCNEAC
HHGFYGPDKK   LRCSCSNGET   CDRFQGCLCS   PGRQGLQCER
EGIPRMTPKI   VDLPDHIEVN   SGKFNPICKA   SGWPLPTNEE
MTLVKPDGTV   LHPKDFNHTD   HFSVAIFTIH   RILPPDSGVW
VCSANTVAGM   VEKPFNISVK   VLPKPLNAPN   VIDTGHNFAV
INISSEPYFG   DGPICKSKLL   YKPVNHYEAW   RHIQVTNEIV
TLNHLEPRTE   YELCVQLVRR   GEGGEGHPGP   VRRFTTASIG
LPPPRGLNLL   PKSQTTLNLT   WQPIFPSSD   DFYVEVERRS
VQKSDQQNIK   VPGNLTSVLL  >NNLHPREQYV   VRARVNTKAQ
GEWSEDLTAW   T L S D I L P P Q P   ENIKISNITH   SSAVISWTIL
DGYSISSITI   RYKVVQKNE D   QHIDVKIKNA   TITQYQLKGL
EPETAYQVDI   FAENNI GSSN   PAFSHELVT L   PESEAPADLG
GGK
  
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Biological Activity	Immobilized Rhesus Macaque TIE-2 at 1 µg/mL (100 µL/well) can bind Biotinylated Human Angiopoietin-2. The ED ₅₀ for this effect is 11.97 ng/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).

Storage & Stability

Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping

Room temperature in continental US; may vary elsewhere.

DESCRIPTION**Background**

TIE-2, a tyrosine-protein kinase, acts as a cell-surface receptor for ANGPT1, ANGPT2, and ANGPT4, exerting comprehensive control over angiogenesis, endothelial cell behavior, and vascular stability. It regulates diverse processes, including endothelial cell survival, proliferation, migration, adhesion, and actin cytoskeleton reorganization, while also playing a crucial role in maintaining vascular quiescence and preventing the leakage of pro-inflammatory plasma proteins and leukocytes from blood vessels, resulting in anti-inflammatory effects. Essential for normal angiogenesis during embryonic development and post-natal hematopoiesis, TIE-2 exhibits context-dependent angiogenic activation or inhibition after birth. In quiescent vessels, ANGPT1, oligomerizing, recruits TIE-2 to cell-cell contacts, activating phosphatidylinositol 3-kinase and AKT1 signaling cascades, promoting vascular stability. Conversely, in migrating endothelial cells lacking cell-cell adhesions, ANGPT1 recruits TIE-2 to extracellular matrix contacts, stimulating sprouting angiogenesis through focal adhesion complex formation and activation of downstream kinases. ANGPT1 signaling induces receptor dimerization and autophosphorylation, providing binding sites for scaffold proteins and effectors. Modulation by ANGPT2, TIE1 heterodimer formation, and proteolytic processing into a soluble extracellular domain contribute to the intricate regulation of TIE-2 signaling, with the soluble domain acting as a decoy receptor for angiopoietins. TIE-2 phosphorylates DOK2, GRB7, GRB14, PIK3R1, SHC1, and TIE1^{[1][2][3][4]}.

Caution: Product has not been fully validated for medical applications. For research use only.

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