

## Active Recombinant Mouse Tek Protein, His-tagged

Cat. No. Tek-7346M Lot. No. (See product label)

### SPECIFICATION

#### Product Overview

Recombinant Mouse soluble TIE-2 was fused with a 6x His-tag at the C-terminus was expressed in insect cells.

#### Species

Mouse

#### Source

Insect Cells

#### Description

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, 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

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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.

**Form** Lyophilized

**Bio-activity** Measured in a functional ELISA assay. When TIE-2 is immobilized at 4 µg/mL (100 µL/well), it binds recombinant human Angiopoietin-2 with a linear range of 2-100 ng/mL.

**Molecular Mass** 95 kDa

**AA Sequence**

AMDLILINSLPLVSDAETLTCIASGWHPHEPITIGRDFEALMNQHQPLeVtQdVtRE  
 WAKKVVWKREKASKINGAYCEGRVrgQAIrITmKMRQQASFLPATLTMTVDRGD  
 NVNISFKKVLiKEEAViYKNGSiHSVPRHEVPDILEVHLPhAQPDAGVYSARYIGGNL  
 FTSAFTRLiVRRCEAQKWGPDCRPCTTCKNNGVCHEDTgECICPPGFMGRtCEKA  
 CEPHTFGRTCKERCsgPEGCKSYVFCPPYGCSCATGWRGLQCNEACPSGYYGPD  
 CKLRCHCTNEEiCDRFQGLCSQGWQGLQCKEGRPRMTPQIEDLPDHIEVNSGKF  
 NPICKASGWPLPTSEEMTLVKPDGTVLQPNDfNYDRFSVAIFTVNVLPDsgVWVC  
 SVNTVAGMVEKPFNiSVKVLPEPLHAPNVIDTGHNFiiNISSEPyFGDGPIKSKKLFYK  
 PVNQAWKYIEVTNEiFTLNylePRTDYELCVQLARPEGGEGHPGPVRRFTTASIGLP  
 PPRGLSLLPKSQTALNLTWQPIFTNSEDEFYVEVERRSQTTSDQQNIKVPGNLTSVL  
 LSNLVPREQYTVRARVNTKAQGEWSEELRAWTLSDILPPQNIKISNITDSTAMVSWTI  
 VDGYSISSIIIRYKvQGKNEdQHIDVKIKNATVTQYQLKGEPETTYHVDIFAENNIGSS  
 NPAFSHELRTLPHSPASATRHHHHHHH

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<b>Endotoxin</b>	< 0.1 ng/μg sTIE-2
<b>Purity</b>	> 95 %
<b>Stability</b>	Samples are stable for 2-4 weeks at 2-8 centigrade.
<b>Storage</b>	sTIE-1 should be stored in working aliquots at -20 to -80 centigrade. Avoid repeated freeze-thaw cycles.
<b>Storage Buffer</b>	PBS without stabilizers
<b>Reconstitution</b>	The lyophilised sTIE-2 is soluble in water and most aqueous buffers. The lyophilised sTIE-2 should be restored in PBS or medium to a concentration not lower than 50 μg/mL.

## GENE INFORMATION

<b>Gene Name</b>	Tek TEK receptor tyrosine kinase [ <i>Mus musculus</i> (house mouse) ]
<b>Official Symbol</b>	Tek
<b>Synonyms</b>	Tek; TEK receptor tyrosine kinase; Hyk; Tie; STK1; Tie2; tie-; Tie-2; Cd202b; AA517024; angiopoietin-1 receptor; endothelial tyrosine kinase; endothelial-specific receptor tyrosine kinase; p140 TEK; 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; EC 2.7.10.1
<b>Gene ID</b>	21687
<b>mRNA Refseq</b>	NM_001290549

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**Protein Refseq** NP\_001277478

**UniProt ID** Q02858

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