# Recombinant Human TEK tyrosine kinase, endothelial Protein, His&Flag tagged

**Cat. No.** TEK-210H **Lot. No.** (See product label)

## SPECIFICATION

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| **Product Overview** | Recombinant human TIE2/TEK protein (Q02763-1) (Ala 23-Lys 745) with both His, Flag tag at the C-terminus was expressed in HEK293. |
| **Species** | Human |
| **Source** | HEK293 |
| **ProteinLength** | 23-745aa |
| **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 pro-inflammatory 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 |

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| | 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. |
| **Tag** | C-His&Flag |
| **Molecular Mass** | 83.3 kDa |
| **Endotoxin** | Less than 1.0 EU/μg by the LAL method. |
| **Purity** | >95% as determined by SDS-PAGE. |
| **Storage** | Please avoid repeated freeze-thaw cycles. Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade. It is recommended that aliquot the reconstituted solution to minimize freeze-thaw cycles. |
| **Storage Buffer** | Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, 5% Trehalose, 5% mannitol. |
| **Reconstitution** | Reconstitute at 250 μg/mL in sterile water. |

## GENE INFORMATION

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| **Gene Name** | TEK TEK tyrosine kinase, endothelial [ Homo sapiens (human) ] |
| **Official Symbol** | TEK |
| **Synonyms** | TEK; TEK tyrosine kinase, endothelial; venous malformations, multiple cutaneous and mucosal, VMCM; angiopoietin-1 receptor; CD202b; TIE 2; TIE2; VMCM1; hTIE2; p140 TEK; soluble TIE2 variant 1; soluble TIE2 variant 2; endothelial tyrosine kinase; tyrosine-protein kinase receptor TEK; tunica interna endothelial cell kinase; tyrosine-protein kinase receptor TIE-2; tyrosine kinase with Ig and EGF homology domains-2; VMCM; TIE-2; CD202B; |
| **Gene ID** | 7010 |
| **mRNA Refseq** | NM_000459 |
| **Protein Refseq** | NP_000450 |
| **MIM** | 600221 |
| **UniProt ID** | Q02763 |

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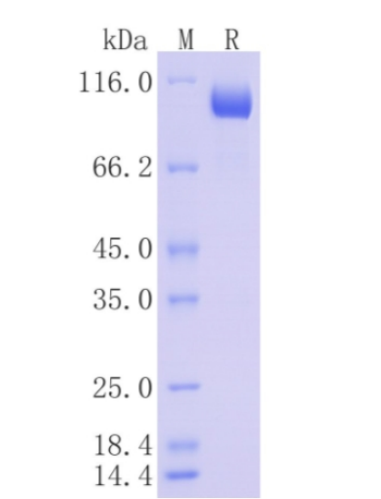
| **Protein on SDS-PAGE under reducing (R) condition.** |  |



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