

## Product datasheet for MR225327

### Tek (NM\_013690) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Tek (NM\_013690) Mouse Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** Tek  
**Synonyms:** AA517024; Cd202b; Hyk; STK1; Tie-2; Tie2  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**ORF Nucleotide Sequence:** >MR225327 representing NM\_013690  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCCCGCATCGCC

ATGGACTCTTTAGCCGGCTTAGTCTCTGTGGAGTCAGCTTGCTCCTTTATGGAGTAGTAGAAGCGCCA  
 TGGACCTGATCTTGATCAATTCCTACCTCTTGCTGTGATGCCGAAACATCCCTCACCTGCATTGCCTC  
 TGGGTGGCACCCCATGAGCCCATCACCATAGGAAGGGACTTTGAAGCCTAATGAACCAGCACCAAGAT  
 CCACTGGAGGTTACTCAAGATGTGACCAGAGAATGGGCGAAAAAGTTGTTTGAAGAGAGAAAAAGCCA  
 GTAAGATTAATGGTGCTATTTCTGTGAAGGTCGAGTTCGAGGACAGGCTATAAGGATACGGACCATGAA  
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 ATATCTTTCAAAAAGGTGTTAATTAAGAAGAAGATGCAGTGATTTACAAAAATGGCTCCTTCATCCACT  
 CAGTGCCCGGCATGAAGTACCTGATATTTTAGAAGTTCACTTGCCGCATGCTCAGCCCCAGGATGCTGG  
 TGTGTAAGTCTCAGAAAGTGGGGGCCGACTGTAGCCGTCCTGTACTACTTGCAAGAACAATGGAGTCTGCC  
 ATGAAGATACCGGGGAATGCATTTGCCCTCCTGGGTTTATGGGGAGAACATGTGAGAAAGCTTGTGAGCC  
 GCACACATTTGGCAGGACCTGTAAGAAAGGTGTAGTGGACCAGAAGGATGCAAGTCTTATGTGTCTGT  
 CTCCCAGACCTTACGGGTGTTCTGTGCCACAGGCTGGAGGGGTTGCAGTGAATGAAGCATGCCCAT  
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 TTCCAGAGCCCTGCACGCCCAAATGTGATTGACACTGGACATAACTTTGCTATCATCAATATCAGCTC  
 TGAGCCTTACTTTGGGATGGACCCATCAAATCCAAGAAGCTTTTCTATAAACCTGTCAATCAGGCTGG



AAATACATTGAAGTGACGAATGAGATTTTCACTCTCAACTACTTGGAGCCGCGGACTGACTACGAGCTGT  
GTGTGCAGCTGGCCCGTCTGGAGAGGGTGGAGAAGGGCATCCTGGGCTGTGAGACGATTTACAACAGC  
GTCTATCGGACTCCCTCCTCCAAGAGGTCTCAGTCTCCTGCCAAAAGCCAGACAGCTCTAAATTTGACT  
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CAAGTGATCAGCAGAATCAAAGTGCCTGGGAACCTGACCTCGGTGCTACTGAGCAACTAGTCCCCAG  
GGAGCAGTACACAGTCCGAGCTAGAGTCAACACCAAGGCGCAGGGGAGTGGAGTGAAGAACTCAGGGCC  
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CTTGGGAGCATGTGAACCCGAGGCTATTTGTACCTAGCTATTGAGTATGCCCGCATGGAACCTCCTG  
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CCCCAGGGCTACAGGCTGGAGAAGCCCTGAACTGTGATGATGAGGTGTATGATCTAATGAGACAGTGT  
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GAAGCAGCC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR225327 representing NM\_013690  
 Red=Cloning site Green=Tags(s)

MDSL AGLVLCGV SLLLYGVVEGAMD LILINSLPLVSDAETSLT CIASGWH PHEPITIGRDFEALMNQH QD  
 PLEV TQDVTREWAKKVVWKREKASKINGAYFCEGRV RQQAIRIRTMKMRQQASFLPATL TMTVD RGDNVN  
 ISFKKVLIKEEDAVIYKNGSF IHSVPRHEVPDILEVHL PHAQPQDAGVYSARYIGGNLFTSAFTRLIVRR  
 CEAQKWGPDCSRPCTTCKNNGVCHEDTGEICPPGFMGR TCEKACEPHTFGRTCKERCSGPEGCKSYVFC  
 LPDPYGCSCATGWRGLQCNEACPSGYGPDCKLRCHCTN EEICDRFQGCLCSQGWQGLQCEKEGRPRMTP  
 QIEDLPDHIEVNSGKFNPICKASGWPLTSEEMTLVKPDGTVLQPNDFNYTDRFSVAIFTVNRVLPDSDG  
 VVWCSVNTVAGMVEKPFNISVKVLP EPLHAPNVIDTGHNF AIIINISSEPYFGDGP IKSKKLFYKPVNQAW  
 KYIEVTNEIFTLNYLEPRTDYELCVQLARPEGEGEHPG PVRFFTTASIGLPPRGLSLLPKSQTALNLT  
 WQPIFTNSEDEFYVEVERRSLQTTSDQQNIKVPGNLTSVLLSNLVPREQYTVRARVNTKAQGEWSEELRA  
 WTLSDILPPQPENIKISNITDSTAMVSWTIVDGY SIISSIIIRYKVGKNEQHDV KIKNATVTQYQLKG  
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 LKRANVQRMAQAFQNVREPAVQFN SGTALNRKAKNNPDPTIYPVLDWNDIKFQDVI GEGNFGQVLKA  
 RIKKDGLRMDAAIKRMKEYASKDDHRDFAGELEVL CCKLGHPNIINLLGACEHRGYLYLAIEYAPHGNLL  
 DFLRKSRLVLETPAFAIANSTASTLSSQQLLHFAADVARGMDYLSQKQFIHRDLAARNILVGENYIAKIA  
 DFGLSRQEVYVKKTMGRLPVRWMAIESLNYSVYTTNSD VWSYGVLLWEIVSLGGTPYCGMTC AELYEKL  
 PQGYRLEKPLNCDDEVYDLMRQCWREKPYERPSFAQ ILVSLNRMLEERKTYVNTTLYEKFTYAGIDCSAE  
 EAA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: [https://cdn.origene.com/chromatograms/mm9009\\_b01.zip](https://cdn.origene.com/chromatograms/mm9009_b01.zip)

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM\_013690

ORF Size: 3369 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

**Reconstitution Method:**

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_013690.3](#)

**RefSeq Size:** 4654 bp

**RefSeq ORF:** 3372 bp

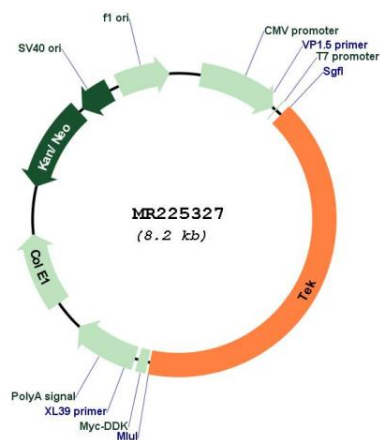
**Locus ID:** 21687

**Cytogenetics:** 4 43.34 cM

**MW:** 126.2 kDa

**Gene Summary:**

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 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.[UniProtKB/Swiss-Prot Function]

**Product images:**

Circular map for MR225327