

## Product datasheet for **MC223075**

### Tek (BC050824) Mouse Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Tek (BC050824) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Tek  
**Synonyms:** AA517024; Cd202b; Hyk; STK1; Tie-2; Tie2  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**Fully Sequenced ORF:** >BC050824  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGACTCTTTAGCCGGCTTAGTTCTCTGTGGAGTCAGCTTGCTCCTTTATGGAGTAGTAGAAGGCGCCA  
 TGGACCTGATCTTGATCAATCCCTACCTCTTGCTGTGATGCCGAAACATCCCTCACCTGCATTGCCTC  
 TGGGTGGCACCCCATGAGCCCATCACCATAGGAAGGGACTTTGAAGCCTTAATGAACCAGCACCAAGAT  
 CCACTGGAGGTTACTCAAGATGTGACCAGAGAATGGGCGAAAAAGTTGTTTGGAAAGAGAGAAAAAGGCCA  
 GTAAGATTAATGGTGCTTATTTCTGTGAAGGTCGAGTTTCGAGGACAGGCTATAAGGATACGGACCATGAA  
 GATGCGTCAACAAGCATCCTTCCTACCTGCTACTTTAACTATGACCGTGGACAGGGGAGATAATGTGAAC  
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 AGTGGGGCCCGACTGTAGCCGCTTGTACTACTTGAAGAACAATGGAGTCTGCCATGAAGATACCGG  
 GGAATGCATTTGCCCTCCTGGGTTTATGGGGAGAACATGTGAGAAAGCTTGTGAGCCGCACACATTTGGC  
 AGGACCTGTAAGAAAAGGTGTAGTGGACCAGAAGGATGCAAGTCTTATGTGTTCTGTCTCCAGACCCTT  
 ACGGGTGTCTGTGCCACAGGCTGGAGGGGTTGCAGTGCAATGAAGCATGCCCATCTGGTTACTACGG  
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 TACTAGTGAAGAAATGACCCTAGTGAAGCCAGATGGGACAGTGTCCAACCAATGACTTCAACTATACA  
 GATCGTTTCTCAGTGGCCATATTCAGTGTCAACCGAGTCTTACCTCTGACTCAGGAGTCTGGGTCTGCA  
 GTGTGAACACAGTGGCTGGGATGGTGGAAAAGCCTTTCAACATTTCCGTCAAAGTTCTTCCAGAGCCCT  
 GCACGCCCAAAATGTGATTGACACTGGACATAACTTTGCTATCATCAATATCAGCTCTGAGCCTTACTTT  
 GGGGATGGACCCATCAAATCCAAGAAGCTTTTCTATAAACCCTGTCAATCAGGCCTGGAAATACATTGAAG  
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 CCGTCTGGAGAGGGTGGAGAAGGGCATCTGGGCTGTGAGACGATTTACAACAGCGTCTATCGGACTC  
 CCTCTCCAAGAGGTCTCAGTCTCTGCCAAAAAGCCAGACAGCTCTAAATTTGACTTGGCAACCGATAT



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TTACAAACTCAGAAGATGAATTTTATGTGGAAGTCGAGAGGCGATCCCTGCAAACAACAAGTGATCAGCA  
GAACATCAAAGTGCCTGGGAACCTGACCTCGGTGCTACTGAGCAACTTAGTCCCCAGGGAGCAGTACACA  
GTCCGAGCTAGAGTCAACACCAAGGCGCAGGGGAGTGGAGTGAAGAAGTCAAGGCTGGACCCTTAGTG  
ACATTCTCCCTCCTCAACCAGAAAACATCAAGATCTCCAACATCACTGACTCCACAGCTATGGTTTCTTG  
GACAATAGTGGATGGCTATTCGATTTCTCCATCATCATCCGGTATAAGGTTCAAGGCAAAAATGAAGAC  
CAGCACATTGATGTGAAGATCAAGAATGCTACCGTTACTCAGTACCAGCTCAAGGCTAGAGCCAGAGA  
CTACATACCATGTGGATATTTTTGCTGAGAACAACATAGGATCAAGCAACCCAGCCTTTTCTCATGAAT  
GAGGACGCTTCCACATTCAGCCTCTGCAGACCTCGGAGGGGAAAGATGCTACTCATAGCCATCCTT  
GGTCCGGCTGGAATGACTTGCATCACCGTGTGTTGGCGTTTCTGATTATGTTGCAACTGAAGAGAGCAA  
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AACTCTGGCCCTAACAGGAAGGCCAAAAACAATCCGGATCCCACAATTTATCCTGTGCTTGACTGGAAT  
GACATCAAGTTTCAAGACGTGATCGGAGAGGGCAACTTTGGCCAGGTTCTGAAGGCACGCATCAAGAAG  
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CGCAGGAGAACTGGAGGTTCTTTGTAACCTTGACACCATCCAAACATCATTAACTCTTGGGAGCATGT  
GAACACCGAGGCTATTTGTACCTAGCTATTGAGTATGCCCGCATGGAAACCTCCTGGACTTCTGCGTA  
AGAGCAGAGTGTAGAGACAGACCTGCTTTTGCATCGCCAACAGTACAGCTTCCACACTGTCTCCCA  
ACAGCTTCTTATTTGCTGCAGATGTGGCCCGGGGATGGACTACTTGAGCCAGAAACAGTTTATCCAC  
AGGGACCTGGCTGCCAGAAACATTTTAGTTGGTAAAACCTACATAGCCAAAATAGCAGATTTTGGATTGT  
CACGAGGTCAAGAAGTGTATGTAAAAAGACAATGGGAAGGCTCCCAGTGCCTGGATGGCAATCGAATC  
ACTGAACTATAGTGTCTATAACAACACAGTGTGTCTGGTCTATGGTGTATTGCTCTGGGAGATTGTT  
AGCTTAGGAGGCCCCCTACTGCGGCATGACGTGCGCGGAGCTCTATGAGAAGTACCCAGGGCTACA  
GGCTGGAGAAGCCCTGAACTGTGATGATGAGGTGTATGATCTAATGAGACAGTGTGGAGGAGAAGCC  
TTATGAGAGACCATATTTGCCAGATATTGGTGCCTTAAACAGGATGCTGGAAGAACGGAAGACATAC  
GTGAACACCACACTGTATGAGAAGTTTACCTATGCAGGAATTGACTGCTCTGCGGAAGAAGCAGCCTAG

ACGCGTACGCGGCGCTCGAGCAGAACTCATCTCTGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

|                               |   |
|-------------------------------|---|
| <b>Restriction Sites:</b>     | SgfI-MluI   |
| <b>ACCN:</b>                  | BC050824  |
| <b>Insert Size:</b>           | 3219 bp   |
| <b>OTI Disclaimer:</b>        | Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).  |
| <b>Components:</b>            | 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).  |
| <b>Reconstitution Method:</b> | <ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol> |
| <b>RefSeq:</b>                | <u><a href="#">BC050824</a></u> , <u><a href="#">AAH50824</a></u>   |
| <b>RefSeq Size:</b>           | 4549 bp   |

RefSeq ORF: 3218 bp

Locus ID: 21687

Cytogenetics: 4 43.34 cM

**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]