

Product datasheet for MR231600

Tek (NM_001290549) Mouse Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Tek (NM_001290549) Mouse Tagged ORF Clone
Tag: Myc-DDK
Symbol: Tek
Synonyms: AA517024; Cd202b; Hyk; STK1; Tie-2; Tie2
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >MR231600 representing NM_001290549
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGACTCTTTAGCCGGCTTAGTTCTCTGTGGAGTCAGCTTGCTCCTTTATGGAGTAGTAGAAGGCGCCA
 TGGACCTGATCTTGATCAATCCCTACCTCTTGCTGTGATGCCGAAACATCCCTCACCTGCATTGCCTC
 TGGGTGGACCCCATGAGCCCATCACCATAGGAAGGGACTTTGAAGCCTTAATGAACCAGCACCAAGAT
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 CAGTGCCCGGCATGAAGTACCTGATATTTAGAAGTTCACTTGCCGCATGCTCAGCCCCAGGATGCTGG
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 GCACACATTTGGCAGGACCTGTAAGAAAGGTGTAGTGGACCAGAAGGATGCAAGTCTTATGTGTTCTGT
 CTCCCAGACCCTTACGGGTGTTCTGTGCCACAGGCTGGAGGGGTTGCAGTGCAATGAAGCATGCCCAT
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GTGTGCAGCTGGCCCGTCTGGAGAGGGTGGAGAAGGGCATCCTGGGCTGTGAGACGATTTACAACAGC
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 CAGGGCTACAGGCTGGAGAAGCCCTGAAGTGTGATGATGAGGTGTATGATCTAATGAGACAGTGCCTGGA
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ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
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Protein Sequence:

>MR231600 representing NM_001290549
 Red=Cloning site Green=Tags(s)

MDSL AGLVLCGV SLLLYGVVEGAMD LILINSLPLVSDAETSLT CIASGWHPHEPITIGRDFEALMNQH QD
 PLEV TQDVTREWAKKVVWKREKASKINGAYFCEGRV RQQAIRIRTMKMRQQASFLPATL TMTVDRGDNVN
 ISFKKVL IKEEDAVIYKNGSF IHSVPRHEVPDILEVHL PHAQPDAGVYSARYIGGNLFTSAFTRLIVRR
 CEAQK WGPDCSRPCTTCKNNGVCHEDTGEICPPGFMGR TCEKACEPHTFGRTCKERC SGPEGCKSYVFC
 LPDPYGC SCATGWRGLQCNEACPSGYYGPDCKLRCHCTNEE ICDRFQGLCSQGWQLQCEKEGRPRMTP
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 VVWCSVNTVAGMVEKPFNISVKV LPEPLHAPNVIDTGHNF AIIINISSEPYFGDGP IKS KKL FYKPVNQAW
 KYIEVTNEIFTLN YLEPRTDYELCVQLARPEGEGEHPGVRFFTTASIGLPPRGLSLLPKSQTALNLT
 WQPIFTNSEDEFYVEVERRSLQTTSDQQNIKVPGNLTSVLLSNLVPREQYTVRARVNTKAQGEWSEELRA
 WTLSDILPPQENIKISNITDSTAMVSWTIVDGYSSIIIRYKVQGNEDQHIDVKIKNATVTQYQLKG
 LEPETTYHVDIFAENNI GSSNPAF SHELRTLPHSPASADLGGGKMLLIAILGSAGMTCITVLLAFLIMLQ
 LKRANVQRMAQAFQNR EEPAVQFN SGTALNRKAKNNPDPTIYPVLDWNDIKFQDVI GEGNFQQV LKAR
 IKKDGLRMDAAIKRMKEYASKDDHRDFAGELEVLCKLGHHPNIINLLGACEHRGYLYLAIEYAPHGNLLD
 FLRKSRLVLETPAFAIANSTASTLSSQQLLHFAADVARGMDYLSQKQFIHRDLAARNILVGENYIAK IAD
 FGLSRGQEVYVKKTMGR L PVRWMAIESLNYSVYTTNSDVWSYGVLLWEIVSLGGTPYCGMTCAELYEKLP
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 AA

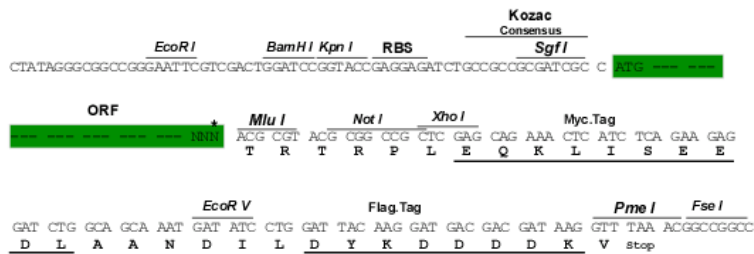
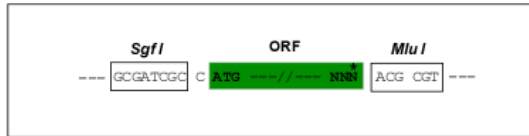
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

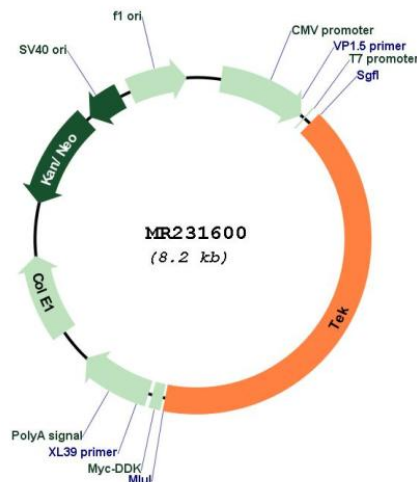
SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:


ACCN: NM_001290549

ORF Size: 3366 bp

OTI Disclaimer: 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_001290549.1](#), [NP_001277478.1](#)

RefSeq Size: 4699 bp

RefSeq ORF: 3369 bp

Locus ID: 21687

UniProt ID: [Q02858](#)

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]