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Product datasheet for MR223008

Tbk1 (NM_019786) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Tbk1 (NM_019786) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Tbk1
Synonyms:	1200008B05Rik; AI462036; AW048562
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>MR223008 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGCAGAGCACCTCCAACCATCTGTGGCTCCTGTCTGATATCCTAGGCCAGGGGGCCACTGCAAATGTCT
TCCGAGGAAGGCATAAGAAAACTGGTGATCTCTATGCTGTCAAAGTATTTAATAACATAAGCTTCCTTCG
CCCAGTGGATGTTCAAATGAGAGAATTTGAAGTGTTAAAAAAACTCAATCACAAAAACATTGTCAAGTTA
TTTGCTATTGAAGAGGAGACAACAACAAGACATAAAGTGCTTATTATGGAGTTTTGTCCCTGTGGGAGTT
TATACACTGTTCTAGAGGAGCCGTCCAATGCGTATGGACTTCCAGAATCAGAATTTCTCATTGTCTTACG
AGATGTGGTGGGCGGGATGAATCATCTCCGAGAGAACGGCATAGTGCACCGAGATATCAAGCCAGGCAAC
ATCATGCGCGTCATAGGGGAGGACGGCCAGTCTGTGTACAAACTCACGGATTTCGGCGCCGCTCGAGAGC
TGGAGGACGATGAGCAGTTTGTGTCTCTGTACGGCACAGAAGAGTACCTGCATCCGGACATGTATGAAAG
GGCAGTGCTAAGAAAGGACCATCAGAAGAAGTACGGGGCTACCGTTGATCTGTGGAGTGTTGGAGTGACA
TTCTACCATGCAGCCACGGGGTCGCTGCCGTTTAGACCCTTCGAGGGGCCTCGGAGGAACAAAGAAGTAA
TGTATAAAATAATCACTGGGAAGCCGTCTGGTGCAATATCTGGAGTACAGAAAGCAGAAAACGGACCAAT
TGACTGGAGTGGAGACATGCCTCTCTCCTGTAGTCTTTCTCAGGGTCTTCAGGCACTGCTTACCCCAGTT
CTTGCAAACATACTTGAAGCTGATCAGGAGAAGTGCTGGGGTTTTGACCAGTTCTTTGCAGAGACCAGTG
ATGTGCTTCACCGAATGGTGATCCATGTCTTCTCGCTACAACACATGACGGCGCATAAGATTTACATTCA
CAGCTATAACACTGCTGCTGTGTTCCATGAACTGGTCTATAAACAAACCAAGATTGTTTCCTCAAATCAA
GAACTTATCTACGAAGGACGACGCTTAGTCCTAGAACTCGGACGACTAGCCCAGCATTTTCCTAAAACCA
CAGAGGAAAATCCTATCTTTGTCACGAGCCGGGAACAACTCAATACCGTAGGACTGAGATATGAAAAAAT
TTCCCTCCCTAAAATACATCCACGCTATGATCTGGATGGGGACGCCAGCATGGCCAAGGCAGTGACGGGG
GTTGTGTGCTACGCCTGCAGAACTGCCAGTACCCTGCTGCTCTATCAAGAATTAATGCGAAAGGGGGTAC
GGTGGCTGGTTGAACTGGTTAAGGATGATTACAACGAGACCGTCCACAAGAAGACGGAGGTAGTGATCAC
ACTGGATTTCTGCATCAGGAACATTGAGAAGACTGTGAAAGTGTATGAGAAGTTGATGAAGGTCAACCTG
GAAGCCGCAGAGCTGGGTGAGATTTCAGACATACACACCAAGCTGCTGAGACTTTCCAGTTCTCAGGGAA
CAATAGAAAGCAGTCTTCAGGACATCAGCAGCAGGCTGTCTCCAGGGGGCTTGCTGGCCGACACCTGGGC
ACATCAAGAAGGCACGCATCCAAGAGACAGGAATGTAGAAAAACTGCAGGTCCTGTTGAACTGCATCACA
GAGATTTACTATCAGTTCAAAAAAGACAAAGCAGAACGCAGACTAGCTTATAATGAAGAACAGATCCACA
AATTTGATAAGCAAAAATTGTATTACCATGCCACAAAAGCAATGAGCCACTTCTCAGAAGAATGTGTTAG
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TTATCGCTAACTAATCAGTGTTTCGATATCGAAGAGGAAGTGTCCAAGTATCAAGACTATACTAACGAGT
TACAAGAAACTCTGCCTCAGAAAATGCTCGCAGCCTCCGGCGGCGTCAAGCACGCCATGGCCCCGATCTA
CCCCAGCTCTAACACCTTAGTGGAGATGACTCTTGGTATGAAGAAGTTAAAGGAGGAGATGGAAGGCGTG
GTTAAGGAGCTGGCCGAGAACAATCATATTTTAGAAAGGTTTGGGTCTTTAACAATGGATGGTGGCCTTC
GCAATGTGGACTGTCTT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

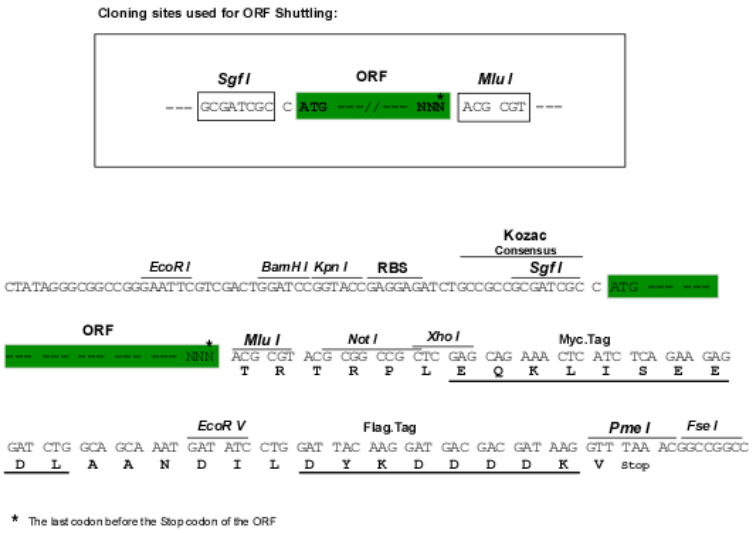
>MR223008 protein sequence
Red=Cloning site Green=Tags(s)

MQSTSNHLWLLSDILGQGATANVFRGRHKKTGDLYAVKVFNNISFLRPVDVQMREFEVLKKLNHKNIVKL
FAIEEETTTRHKVLIMEFCPCGSLYTVLEEPSNAYGLPESEFLIVLRDVVGGMNHLRENGIVHRDIKPGN
IMRVIGEDGQSVYKLTDFGAARELEDDEQFVSLYGTEEYLHPDMYERAVLRKDHQKKYGATVDLWSVGVT
FYHAATGSLPFRPFEGPRRNKEVMYKIITGKPSGAISGVQKAENGPIDWSGDMPLSCSLSQGLQALLTPV
LANILEADQEKCWGFDQFFAETSDVLHRMVIHVFSLQHMTAHKIYIHSYNTAAVFHELVYKQTKIVSSNQ
ELIYEGRRLVLELGRLAQHFPKTTEENPIFVTSREQLNTVGLRYEKISLPKIHPRYDLDGDASMAKAVTG
VVCYACRTASTLLLYQELMRKGVRWLVELVKDDYNETVHKKTEVVITLDFCIRNIEKTVKVYEKLMKVNL
EAAELGEISDIHTKLLRLSSSQGTIESSLQDISSRLSPGGLLADTWAHQEGTHPRDRNVEKLQVLLNCIT
EIYYQFKKDKAERRLAYNEEQIHKFDKQKLYYHATKAMSHFSEECVRKYEAFKDKSEEWMRKMLHLRKQL
LSLTNQCFDIEEEVSKYQDYTNELQETLPQKMLAASGGVKHAMAPIYPSSNTLVEMTLGMKKLKEEMEGV
VKELAENNHILERFGSLTMDGGLRNVDCL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_019786

ORF Size: 2190 bp

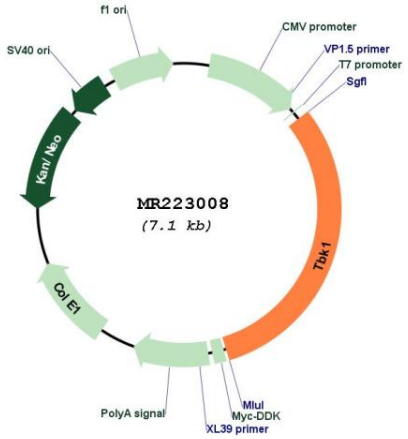
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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_019786.4, NP_062760.3
RefSeq Size:	3031 bp
RefSeq ORF:	2190 bp
Locus ID:	56480
UniProt ID:	Q9WUN2
Cytogenetics:	10 D2
MW:	83.4 kDa
Gene Summary:	Serine/threonine kinase that plays an essential role in regulating inflammatory responses to foreign agents (PubMed:10581243, PubMed:15210742, PubMed:15661922). Following activation of toll-like receptors by viral or bacterial components, associates with TRAF3 and TANK and phosphorylates interferon regulatory factors (IRFs) IRF3 and IRF7 as well as DDX3X (By similarity). This activity allows subsequent homodimerization and nuclear translocation of the IRFs leading to transcriptional activation of pro-inflammatory and antiviral genes including IFNA and IFNB (By similarity). In order to establish such an antiviral state, TBK1 form several different complexes whose composition depends on the type of cell and cellular stimuli (By similarity). Thus, several scaffolding molecules including FADD, TRADD, MAVS, AZI2, TANK or TBKBP1/SINTBAD can be recruited to the TBK1-containing-complexes (By similarity). Plays a key role in IRF3 activation: acts by first phosphorylating innate adapter proteins MAVS, TMEM173/STING and TICAM1 on their pLxIS motif, leading to recruitment of IRF3, thereby licensing IRF3 for phosphorylation by TBK1 (By similarity). Under particular conditions, functions as a NF-kappa-B effector by phosphorylating NF-kappa-B inhibitor alpha/NFKBIA, IKBKB or RELA to translocate NF-Kappa-B to the nucleus (By similarity). Restricts bacterial proliferation by phosphorylating the autophagy receptor OPTN/Optineurin on 'Ser-177', thus enhancing LC3 binding affinity and antibacterial autophagy (By similarity). Phosphorylates SMCR8 component of the C9orf72-SMCR8 complex, promoting autophagosome maturation (By similarity). Phosphorylates and activates AKT1 (By similarity). Seems to play a role in energy balance regulation by sustaining a state of chronic, low-grade inflammation in obesity, wich leads to a negative impact on insulin sensitivity (PubMed:23396211).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR223008