

Product datasheet for **MG223008**

Tbk1 (NM_019786) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Tbk1 (NM_019786) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Tbk1
Synonyms:	1200008B05Rik; AI462036; AW048562
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG223008 representing NM_019786
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCAGAGCACCTCCAACCATCTGTGGCTCCTGTCTGATATCCTAGGCCAGGGGGCCACTGCAAATGTCT
 TCCGAGGAAGGCATAAGAAAACCTGGTGATCTCTATGCTGTCAAAGTATTTAATAACATAAGCTTCCTTCG
 CCCAGTGGATGTTCAAATGAGAGAAATTTGAAGTGTAAAAAACTCAATCACAAAAACATTGTCAAGTTA
 TTTGCTATTGAAGAGGAGACAACAACAAGACATAAAGTGCTTATTATGGAGTTTTGTCCCTGTGGGAGTT
 TATACACTGTTCTAGAGGAGCCGTTCCAATGCGTATGGACTTCCAGAATCAGAATTTCTCATTGTCTTACG
 AGATGTGGTGGGCGGGATGAATCATCTCCGAGAGAACGGCATAGTGCACCGAGATATCAAGCCAGGCAAC
 ATCATGCGCGTCATAGGGGAGGACGGCCAGTCTGTGTACAACTCACGGATTTCCGGCCCGCTCGAGAGC
 TGGAGGACGATGAGCAGTTTGTGTCTCTGTACGGCACAGAAGAGTACCTGCATCCGGACATGTATGAAAG
 GGCAGTGCTAAGAAAGGACCATCAGAAGAAGTACGGGGCTACCGTTGATCTGTGGAGTGTGGAGTGACA
 TTCTACCATGCAGCCACGGGGTCTGCTGCGTTTACGACCTTCGAGGGGCCCGGAGGAACAAAGAAGTAA
 TGTATAAAATAATCACTGGGAAGCCGTCTGGTGAATATCTGGAGTACAGAAAGCAGAAAACGGACCAAT
 TGACTGGAGTGGAGACATGCCTCTCTCCTGTAGTCTTTCTCAGGGTCTTCAGGCACTGCTTACCCAGTT
 CTTGCAACATACTTGAAGCTGATCAGGAGAAGTCTGGGGTTTTGACCAGTTCTTTGCAGAGACCAGTG
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 CAGCTATAACACTGCTGCTGTGTCCATGAACTGGTCTATAAACAAACCAAGATTGTTTCCCTCAAATCAA
 GAACCTTCTACGAAGGACGACGCTTAGTCCTAGAAGTACGGAGTACTAGCCAGCATTTCCTAAAACCA
 CAGAGGAAAACTCTATCTTTGTACGAGCCGGGAACAACCTCAATACCGTAGGACTGAGATGAAAAAT
 TTCCCTCCCTAAAATACATCCACGCTATGATCTGGATGGGGACGCCAGCATGGCCAAGGCAGTGACGGGG
 GTTGTGTGCTACGCTGCAGAACTGCCAGTACCCTGCTGCTCTATCAAGAATTAATGCGAAAGGGGGTAC
 GGTGGCTGGTTGAACTGGTTAAGGATGATTACAACGAGACCGTCCACAAGAAGACGGAGGTAGTGATCAC
 ACTGGATTTCTGCATCAGGAACATTGAGAAGACTGTGAAAGTGTATGAGAAGTTGATGAAGGTCAACCTG
 GAAGCCGAGAGCTGGGTGAGATTTAGACATACACCAAGCTGCTGAGACTTTCCAGTTCTCAGGGAA
 CAATAGAAAGCAGTCTTCAGGACATCAGCAGCAGGCTGTCTCCAGGGGGTGTGGCCGACACCTGGGC
 ACATCAAGAAGGCACGCATCCAAGAGACAGGAATGTAGAAAACTGCAGGTCTGTTGAACTGCATCACA
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 AATTTGATAAGCAAAAATTGTATTACCATGCCACAAAAGCAATGAGCCACTTCTCAGAAGAATGTGTAG
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 TTATCGCTAACTAATCAGTGTTCGATATCGAAGAGGAAGTGTCCAAGTATCAAGACTATACTAACGAGT
 TACAAGAACTCTGCCTCAGAAAATGCTCGCAGCCTCCGGCGGCGTCAAGCACGCCATGGCCCCGATCTA
 CCCCAGCTTAACACCTTAGTGGAGATGACTCTTGGTATGAAGAAGTTAAAGGAGGAGATGGAAGGCGTG
 GTTAAGGAGCTGGCCGAGAACAATCATATTTAGAAAGGTTTGGGTCTTAAACAATGGATGGTGGCCTTC
 GCAATGTGGACTGTCTT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG223008 representing NM_019786
 Red=Cloning site Green=Tags(s)

MQSTSNHLWLLSDILGQGATANVFRGRHKKTGDLYAVKVFNNISFLRPVDVQMREFEVLKKNLHKNIKVL
 FAIEEETTRHKVLIMEFCPCGSLYTVLEEPSNAYGLPESEFLIVLRDVGGMNHLRENGIVHRDIKPGN
 IMRVIGEDGQSVYKLTDFGAARELEDDEQFVSLYGTEEYLHPDMYERAVLRKDHQKYGATVDLWSVGVT
 FYHAATGSLPFRPFEGPRRNKEVMYKIIITGKPSGAI SGVQKAENGPIDWSGDMPLSCSL SQGLQALLTPV
 LANILEADQEKCWGFDQFFAETSDVLHRMVIHVFSLQHMTAHKIYIHSYNTAAVFHEL VYKQTKIVSSNQ
 ELIYEGRRLVLELGRLAQHFPKTTTEENPIFVTSREQLNTVGLRYEKISLPKIHPRYDLGDASMAKAVTG
 VVCYACRTASTLLLYQELMRKGVRLVELVKDDYNETVHKKTEVVITLDFCIRNIEKTVKVEKLMKVNL
 EAAELGEISDIHTKLLRLSSSQGTIESSLQDISSRLSPGGLLADTWAHQEGTHPRDRNVEKLVLLNCIT
 EIYYQFKKDKAERRLAYNEEQIHKFDKQKLYYHATKAMSHFSEECVRKYEAFKDKSEEWMRKMLHLRQQL
 LSLTNQCFDIEEEVSKYQDYTNELQETLPQKMLAASGGVKHAMAPIYSSNTLVEMTLGMKKLKEEMEGV
 VKELAENNHILERF GSL TMDGGLRNVDCL

TRTRPLE - GFP Tag - V

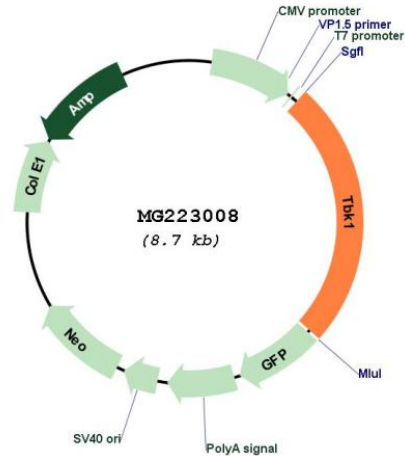
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_019786

ORF Size: 2187 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

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]