

Product datasheet for **MG227202**

Tbx21 (NM_019507) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Tbx21 (NM_019507) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Tbx21
Synonyms:	Tbet; Tblym; TBT1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG227202 representing NM_019507
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGGCATCGTGGAGCCGGGCTGCGGAGACATGCTGACCGGCACCGAGCCGATGCCGAGTGACGAGGGCC
 GGGGGCCCGAGCGGACCAACAGCATCGTTTTCTCTATCCCGAGCCGGGCGCACAGGACCCGACCGATCG
 CCGCGCAGGTAGCAGCCTGGGGACGCCCTACTCTGGGGCGCCCTGGTGCCTGCCGCGCCGGGTCCGTTT
 CTTGGATCCTTCGCCTACCCGCCCGGGCTCAGGTGGCTGGCTTTCCCGGGCTGGCGAGTTCTTCCCGC
 CGCCCGGGTGCAGGAGGCTACCCGCCGTGGATGGCTACCCTGCCCTGACCCGCGCGGGGCTCTA
 CCCAGGGCCGCGGAGGACTACGCATTGCCCGGGGTTGGAGGTGTCTGGGAAGCTGAGAGTCGCGCTC
 AGCAACCACCTGTTGTGGTCCAAGTTCAACCAGCACCAGACAGAGATGATCATCTAAGCAAGGACGGC
 GAATGTTCCCATTCCTGTCTTACCCTGGCCGGGCTGGAGCCACAAGCCATTACAGGATGTTTGTGGA
 TGTGGTCTTGGTGGACAGCACCCTGGCGGTACCAGAGCGGCAAGTGGGTGCAGTGTGGAAGGCAGAA
 GGACGATGCCAGGAACCGCTTATATGTCACCCAGACTCCCCAACACCGGAGCCACTGGATGCCCC
 AGGAAGTTTCATTTGGGAAGCTAAAGCTACCAACAACAAGGGGCTTCCAACAATGTGACCCAGATGAT
 CGTCTGCAGTCTCTCCACAAGTACCAGCCCGGCTGCACATCGTGGAGGTGAATGATGGAGAGCCAGAG
 GCTGCCTGCAGTCTTCTAACACACACGCTTTTACTTTCCAAGAGACCCAGTTTATTGCAGTGACTGCCT
 ACCAGAACGCAGAGATCACTCAGCTGAAAATCGACAACAACCCCTTTGCCAAAGGATTCGGGAGAACTT
 TGAGTCCATGTACGCATCTGTTGATACGAGTGTCCCTCGCCACCTGGACCCAACGTCAACTGCTTGGG
 GGAGACCCCTTCTCACCTCTTCTATCCAACCAGTATCCTGTTCCAGCCGTTTCTACCCGACCTCCAG
 GCCAGCCCAAGGATATGATCTCACAGCCTTACTGGCTGGGACACCTCGGGAACACAGTTATGAAGCGGA
 GTTCCGAGCTGTGAGCATGAAGCCACACTCTACCCTCTGCCCGGGGCCACTGTGCCCTACTACCCGG
 GGCCAAGACGTCCTGGCGCTGGAGCTGGTTGGCCGTGGCCCTCAATACCCGCCCAAGATGAGCCAG
 CTGGCTGGTTCGGCCCATGCGAACTCTGCCATGGACCCGGGCTGGGATCCTCAGAGGAACAGGGCTC
 CTCCTCCGCTGTGGCCTGAGGTACCTCCCTCCAGCCGAGCCAGCGACTCAGGACTAGGCGAAGGA
 GACACTAAGAGGAGGAGGATATCCCCTATCCTCCAGTGGCGACAGCTCTCTCCGCTGGGGCCCTT
 CTCCTTTTGATAAGGAAACCGAAGGCCAGTTTTATAATTATTTTCCCAAC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG227202 representing NM_019507
 Red=Cloning site Green=Tags(s)

MGIVEPGCGDMLTGTEPMPSDEGRGPGADQQRFFYPEPGAQDPTDRRAGSSLGTPYSSGALVPAAPGRF
 LGSFAYPPRAQVAGFPGPGEFFPPPAGAEGYPPVDGYPAPDPRAGLYPGPREDYALPAGLEVSGKLRVAL
 SNHLLWSKFNQHQTEMIITKQRRMFPFLSFTVAGLEPTSHYRMFVDVVLVDQHHWRYQSGKWQCCKAE
 GSMPGNRLYVHPDSPNTGAHWMRQEVSGKLLKLNKASNNVTQMIVLQSLHKYQPRLHIVEVNDGEPE
 AACASANTHVFTFQETQFIAVTAYQNAEITQLKIDNNPFAKGFRENFESMYASVDTSVPSPPGPNCLLG
 GDPFSPLL SNQYPVPSRFYFDLPGQPKDMI SQPYWLGTPREHSYEAEFRAVSMKPTLLPSAPGPTVPYYR
 GQDVLAPGAGWPVAPQYPPKMPAGWFRPMRTLPMDPGLGSSEEQGS SPSLWPEVTSLQPEPSD SGLGEG
 DTKRRRISPYPSGDSSSPAGAPSPFDKETEGQFYNYFPN

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_019507

ORF Size: 1590 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 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).

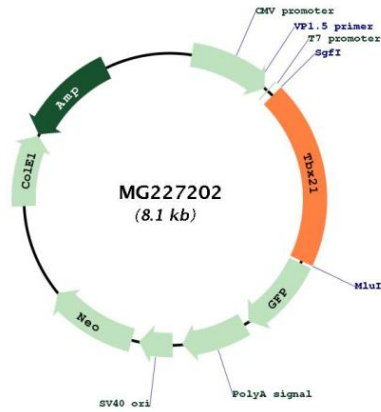
- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
 3. Close the tube and incubate for 10 minutes at room temperature.
 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the 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_019507.2](#), [NP_062380.2](#)

RefSeq Size: 2552 bp
RefSeq ORF: 1593 bp
Locus ID: 57765
UniProt ID: [Q9JKD8](#)
Cytogenetics: 11 D

Gene Summary: Lineage-defining transcription factor which initiates Th1 lineage development from naive Th precursor cells both by activating Th1 genetic programs and by repressing the opposing Th2 and Th17 genetic programs. Activates transcription of a set of genes important for Th1 cell function, including those encoding IFN-gamma and the chemokine receptor CXCR3. Activates IFNG and CXCR3 genes in part by recruiting chromatin remodeling complexes including KDM6B, a SMARCA4-containing SWI/SNF-complex, and an H3K4me2-methyltransferase complex to their promoters and all of these complexes serve to establish a more permissive chromatin state conducive with transcriptional activation (PubMed:10761931, PubMed:17923685, PubMed:21095589). Can activate Th1 genes also via recruitment of Mediator complex and P-TEFb (composed of CDK9 and CCNT1/cyclin-T1) in the form of the super elongation complex (SEC) to super-enhancers and associated genes in activated Th1 cells (PubMed:27292648). Inhibits the Th17 cell lineage commitment by blocking RUNX1-mediated transactivation of Th17 cell-specific transcriptional regulator RORC (PubMed:21151104). Inhibits the Th2 cell lineage commitment by suppressing the production of Th2 cytokines, such as IL-4, IL-5, and IL-13, via repression of transcriptional regulators GATA3 and NFATC2 (PubMed:15662016, PubMed:21690296, PubMed:23616576). Protects Th1 cells from amplifying aberrant type-I IFN response in an IFN-gamma abundant microenvironment by acting as a repressor of type-I IFN transcription factors and type-I IFN-stimulated genes (PubMed:28623086). Acts as a regulator of antiviral B-cell responses; controls chronic viral infection by promoting the antiviral antibody IgG2a isotype switching and via regulation of a broad antiviral gene expression program (PubMed:27430722). [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MG227202