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Product datasheet for MR227202

Tbx21 (NM_019507) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Tbx21 (NM_019507) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Tbx21
Synonyms:	Tbet; Tblym; TBT1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>MR227202 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGGCATCGTGGAGCCGGGCTGCGGAGACATGCTGACCGGCACCGAGCCGATGCCGAGTGACGAGGGCC
GGGGGCCCGGAGCGGACCAACAGCATCGTTTCTTCTATCCCGAGCCGGGCGCACAGGACCCGACCGATCG
CCGCGCAGGTAGCAGCCTGGGGACGCCCTACTCTGGGGGCGCCCTGGTGCCTGCCGCGCCGGGTCGCTTC
CTTGGATCCTTCGCCTACCCGCCCCGGGCTCAGGTGGCTGGCTTTCCCGGGCCTGGCGAGTTCTTCCCGC
CGCCCGCGGGTGCGGAGGGCTACCCGCCCGTGGATGGCTACCCTGCCCCTGACCCGCGCGCGGGGCTCTA
CCCAGGGCCGCGCGAGGACTACGCATTGCCCGCGGGGTTGGAGGTGTCTGGGAAGCTGAGAGTCGCGCTC
AGCAACCACCTGTTGTGGTCCAAGTTCAACCAGCACCAGACAGAGATGATCATCACTAAGCAAGGACGGC
GAATGTTCCCATTCCTGTCCTTCACCGTGGCCGGGCTGGAGCCCACAAGCCATTACAGGATGTTTGTGGA
TGTGGTCTTGGTGGACCAGCACCACTGGCGGTACCAGAGCGGCAAGTGGGTGCAGTGTGGAAAGGCAGAA
GGCAGCATGCCAGGGAACCGCTTATATGTCCACCCAGACTCCCCCAACACCGGAGCCCACTGGATGCGCC
AGGAAGTTTCATTTGGGAAGCTAAAGCTCACCAACAACAAGGGGGCTTCCAACAATGTGACCCAGATGAT
CGTCCTGCAGTCTCTCCACAAGTACCAGCCCCGGCTGCACATCGTGGAGGTGAATGATGGAGAGCCAGAG
GCTGCCTGCAGTGCTTCTAACACACACGTCTTTACTTTCCAAGAGACCCAGTTCATTGCAGTGACTGCCT
ACCAGAACGCAGAGATCACTCAGCTGAAAATCGACAACAACCCCTTTGCCAAAGGATTCCGGGAGAACTT
TGAGTCCATGTACGCATCTGTTGATACGAGTGTCCCCTCGCCACCTGGACCCAACTGTCAACTGCTTGGG
GGAGACCCCTTCTCACCTCTTCTATCCAACCAGTATCCTGTTCCCAGCCGTTTCTACCCCGACCTTCCAG
GCCAGCCCAAGGATATGATCTCACAGCCTTACTGGCTGGGGACACCTCGGGAACACAGTTATGAAGCGGA
GTTCCGAGCTGTGAGCATGAAGCCCACACTCCTACCCTCTGCCCCGGGGCCCACTGTGCCCTACTACCGG
GGCCAAGACGTCCTGGCGCCTGGAGCTGGTTGGCCCGTGGCCCCTCAATACCCGCCCAAGATGAGCCCAG
CTGGCTGGTTCCGGCCCATGCGAACTCTGCCCATGGACCCGGGCCTGGGATCCTCAGAGGAACAGGGCTC
CTCCCCCTCGCTGTGGCCTGAGGTCACCTCCCTCCAGCCGGAGCCCAGCGACTCAGGACTAGGCGAAGGA
GACACTAAGAGGAGGAGGATATCCCCCTATCCTTCCAGTGGCGACAGCTCCTCTCCCGCTGGGGCCCCTT
CTCCTTTTGATAAGGAAACCGAAGGCCAGTTTTATAATTATTTTCCCAAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

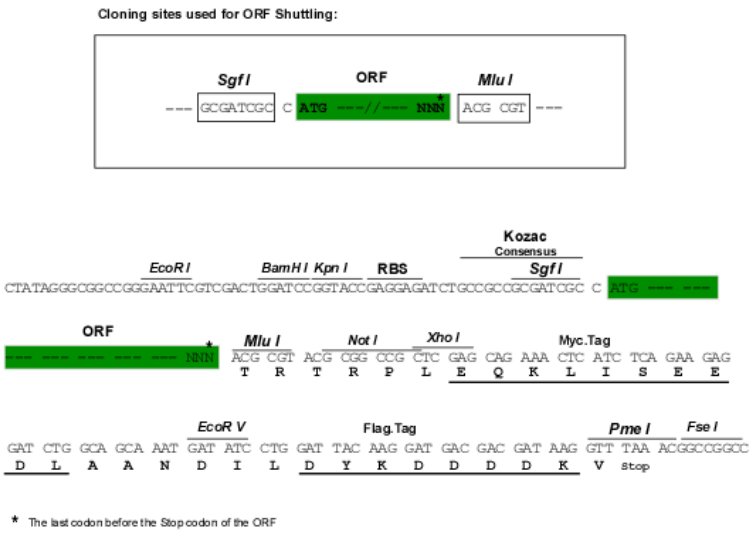
>MR227202 protein sequence
Red=Cloning site Green=Tags(s)

MGIVEPGCGDMLTGTEPMPSDEGRGPGADQQHRFFYPEPGAQDPTDRRAGSSLGTPYSGGALVPAAPGRF
LGSFAYPPRAQVAGFPGPGEFFPPPAGAEGYPPVDGYPAPDPRAGLYPGPREDYALPAGLEVSGKLRVAL
SNHLLWSKFNQHQTEMIITKQGRRMFPFLSFTVAGLEPTSHYRMFVDVVLVDQHHWRYQSGKWVQCGKAE
GSMPGNRLYVHPDSPNTGAHWMRQEVSFGKLKLTNNKGASNNVTQMIVLQSLHKYQPRLHIVEVNDGEPE
AACSASNTHVFTFQETQFIAVTAYQNAEITQLKIDNNPFAKGFRENFESMYASVDTSVPSPPGPNCQLLG
GDPFSPLLSNQYPVPSRFYPDLPGQPKDMISQPYWLGTPREHSYEAEFRAVSMKPTLLPSAPGPTVPYYR
GQDVLAPGAGWPVAPQYPPKMSPAGWFRPMRTLPMDPGLGSSEEQGSSPSLWPEVTSLQPEPSDSGLGEG
DTKRRRISPYPSSGDSSSPAGAPSPFDKETEGQFYNYFPN

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_019507

ORF Size: 1593 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

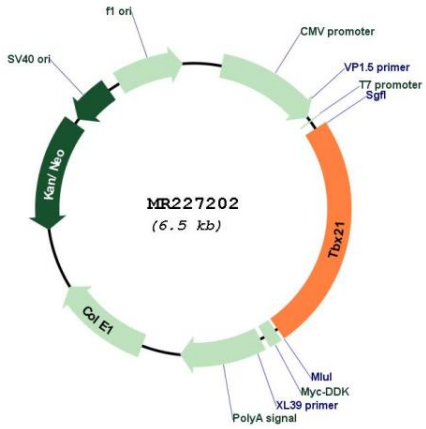
OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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
MW:	57.9 kDa
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 transcriptinal 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 MR227202