

Product datasheet for **MG227612**

Txk (NM_001122754) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Txk (NM_001122754) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Txk
Synonyms:	A130089B16Rik; Btkl; PTK-RL-18; PTK4; Rlk
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG227612 representing NM_001122754
 Red=Cloning site Blue=ORF Green=Tags(s)
 TTTTGAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGATCCTGTCCTTTATAGCTCCTCCAGTCTGTTCTCTGCTGCTGCTGTTGCCGTGCTCAGTACAGA
 AGAGACAGGTGAGAACTCAGATAAGCCTGAGCAGAGAGGAAGAACTCTCAGAAAAACATCCAGCGTCA
 GAGGCCGTGGTTTCGCAAACTGATGGGCAAACTCAATCCAACAGAGCGGGGTGAACCCCTCGAAGCGC
 AAGCCGCTGCCCCCTCCCGCAGGAGCCTCCAGATGAGAGAATCCAGGTCAAGGCTCTTTATGACTTCC
 TGCCTCGGAGCCTGGTAATTTGGCACTGAAGAGAGCGGAGGAATATCTGATATTGGAGAGGTGTGATCC
 TCACTGGTGAAGGCCAGAGACCCTTCGGGAATGAAGGCTTAATCCAAGCAACTATGTGACAGAAAAAC
 AGACTCGCAACTTAGAAATCTATGAATGGTACCACAAGAACATTACGAGAAACCAGACCGAACGCCTAT
 TGAGGCAAGAGGCTAAAGAAGTGCCTTTATCGTGAGAGATTGAGACACTTGGGGTCTTACACAATCTC
 TGTGTTTACAAGAGCTCGAAGGCATACACAGTCTCAATAAAAACATTATCAGATAAAAAAGAATGACTCC
 GGACAGTGGTACATCACCGAAAGACATCTCTCCCTCAGTCCCCGAGTTGATCCAGTATACACAGTACA
 ATGCAGCTGGTCTCATATCTCGTCTCCGCTATCCCATGGGCTCCTGGGCAGCTGTTTACCAGCCACATC
 TGGTTTTAGCTATGAAAAGTGGGAGATAGATCCATCAGAGTTGGCTTTTGTCAAGGAGATCGGAAGTGGT
 CAGTTTGGGGTGTCCACTTAGGAGAAATGGAGAGCACATATCCCGGTCCGCATCAAGGCCATCAATGAAG
 GTTCCATGTCTGAAGAAGACTTCATTGAGGAAGCCAAGGTGATGATGAACTGTCACATTCGAGGTTAGT
 TCAACTTACGGGGTGTGTATACAGCAGAAGCCCTGTACATAGTGACGGAGTTCATGGAGAACGGCTGC
 CTGCTTGACTATCTCAGGGAGAGGAAAGCCAGCTTCAGAAGCGCTGCTCTTGAGCATGTGCCAAGACA
 TATGTGAAGGGATGGCGTACCTGGAGAGGAGCTGCTATATTCACAGGGATCTGGCTGCCAGGAATGTTT
 GGTCAGTTCTGCCTGCGTAGTAAAGATCTCAGACTTCGGCATGGCGAGGTATGTTTTGGACGATGAATAT
 ATCAGTCTTCTGGAGCTAAGTTCACAGTCAAGTGGTCCACCTGAAAGTCTTTCATTTCAACAAATACA
 GTAGCAAGTCTGATGTCTGGTCTCGGAGTTTTAATGTGGGAAGTTTTTACAGAAGAAAAATGCCTTT
 TGAAAATAAGTCAAAATTTGCAAGTGGTGAAGCCATTTCTCAAGGTTTCCGGCTGTATCGTCTCACCTG
 GCCCCATGACCATATACAGAGTGTACAGTTGCTGGCATGAGAGCCCTAAAGGCCGTCGACATTTG
 CTGAGCTGCTCAGGTTCTCACGGAGATCGCAGAAACGTGG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG227612 representing NM_001122754
 Red=Cloning site Green=Tags(s)
 MILSSYSSFQSVLCCCCRCVQKRQVRTQISLSREEELSEKHSQRQRPWFAKLMGKTQSNRGGVQPSKR
 KPLPPLPQEPDERIQVKALYDFLPREPGLALKRAEYILERCDPHWWKARDRFGNEGLIPSNVVTEN
 RLANLEIYEWYHKNI TRNQTERLLRQEAKEGAFIVRDSRHLGYSYISVFRARRHTQSSIKHYQIKKND
 GQWYITERHLFSPVELIQYHQYNAAGLISRLRYPIGLLGSLPATSGFSYEKWEIDPSELAFVKEIGSG
 QFGVVHLGEWRAHIPVAIKAINEGSMSEEDFIEEAKVMMKLSHSRLVQLYGVCIQQKPLYIVTEFMENG
 LLDYLRERKGLQKALLSMCQDICEGMAYLERSYIHRDLAARNCLVSSACVVKISDFGMARYVLDDEY
 ISSSGAKFPVKWCPPEVHFHFNKYSSKSDVWSFGVLMWEVFTGKMPFENKSNLQVVEAISQGFRLYRPHL
 APMTIYRVMYSCWHESPGRPTFAELLQVLTEIAETW

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-MluI

ACCN:	NM_001122754
ORF Size:	1581 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:	<ol style="list-style-type: none">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_001122754.2 , NP_001116226.1
RefSeq Size:	2256 bp
RefSeq ORF:	1584 bp
Locus ID:	22165
UniProt ID:	P42682
Cytogenetics:	5 38.44 cM

Gene Summary:

Non-receptor tyrosine kinase that plays a redundant role with ITK in regulation of the adaptive immune response. Regulates the development, function and differentiation of conventional T-cells and nonconventional NKT-cells. When antigen presenting cells (APC) activate T-cell receptor (TCR), a series of phosphorylation lead to the recruitment of TXK to the cell membrane, where it is phosphorylated at Tyr-420. Phosphorylation leads to TXK full activation. Contributes also to signaling from many receptors and participates in multiple downstream pathways, including regulation of the actin cytoskeleton. Like ITK, can phosphorylate PLCG1, leading to its localization in lipid rafts and activation, followed by subsequent cleavage of its substrates. In turn, the endoplasmic reticulum releases calcium in the cytoplasm and the nuclear activator of activated T-cells (NFAT) translocates into the nucleus to perform its transcriptional duty. With PARP1 and EEF1A1, TXK forms a complex that acts as a T-helper 1 (Th1) cell-specific transcription factor and binds the promoter of IFNG to directly regulate its transcription, and is thus involved importantly in Th1 cytokine production. Phosphorylates both PARP1 and EEF1A1. Phosphorylates also key sites in LCP2 leading to the up-regulation of Th1 preferred cytokine IL-2. Phosphorylates 'Tyr-201' of CTLA4 which leads to the association of PI-3 kinase with the CTLA4 receptor.[UniProtKB/Swiss-Prot Function]