

Product datasheet for **MR227612**

Txk (NM_001122754) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Txk (NM_001122754) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Txk
Synonyms:	A130089B16Rik; Btkl; PTK-RL-18; PTK4; Rlk
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>MR227612 representing NM_001122754
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGATCCTGTCCTTATAGCTCCTCCAGTCTGTTCTCTGCTGCTGCTGTTGCCGTGCTCAGTACAGA
 AGAGACAGGTGAGAACTCAGATAAGCCTGAGCAGAGAGGAAGAACTCTCAGAAAAACATCCAGCGTCA
 GAGGCCGTGTTTCGCAAACTGATGGGCAAACTCAATCCAACAGAGCGGGGTGAACCCCTCGAAGCGC
 AAGCCGCTGCCCCCTCCCGCAGGAGCCTCCAGATGAGAGAATCCAGGTCAAGGCTCTTTATGACTTCC
 TGCCTCGGAGCCTGGTAATTTGGCACTGAAGAGAGCGGAGGAATATCTGATATTGGAGAGGTGTGATCC
 TCACTGGTGAAGGCCAGAGACCCTTCGGGAATGAAGGCTTAATCCAAGCAACTATGTGACAGAAAAAC
 AGACTCGCAACTTAGAAATCTATGAATGGTACCACAAGAACATTACGAGAAACCAGACCGAACGCCTAT
 TGAGGCAAGAGGCTAAAGAAGTGCCTTATCGTGAGAGATTGAGACACTTGGGGTCTTACACAATCTC
 TGTGTTTACAAGAGCTCGAAGGCATACACAGTCTCAATAAAACATTATCAGATAAAAAAGAAATGACTCC
 GGACAGTGGTACATCACCGAAAGACATCTCTCCCTCAGTCCCCGAGTTGATCCAGTATACCAGTACA
 ATGCAGCTGGTCTCATATCTCGTCTCCGCTATCCCATGGGCTCCTGGGCAGCTGTTTACCAGCCACATC
 TGGTTTTAGCTATGAAAAGTGGGAGATAGATCCATCAGAGTTGGCTTTTGTCAAGGAGATCGGAAGTGGT
 CAGTTTGGGGTGTCCACTTAGGAGAAATGGAGAGCACATATCCCGGTCCGCATCAAGGCCATCAATGAAG
 GTTCCATGTCTGAAGAAGACTTCATTGAGGAAGCCAAGGTGATGATGAACTGTCACATTCGAGGTTAGT
 TCAACTTACGGGGTGTGATACAGCAGAAGCCCTGTACATAGTGACGGAGTTCATGGAGAACGGCTGC
 CTGCTTGACTATCTCAGGGAGAGGAAAGCCAGCTTCAGAAGCGCTGCTCTTGAGCATGTGCCAAGACA
 TATGTGAAGGGATGGCGTACCTGGAGAGGAGCTGCTATATTCACAGGGATCTGGCTGCCAGGAAGTGT
 GGTCAGTTCTGCCTGCGTAGTAAAGATCTCAGACTTCGGCATGGCGAGGTATGTTTTGGACGATGAATAT
 ATCAGTCTTCTGGAGCTAAGTTCACAGTCAAGTGGTCCACCTGAAAGTCTTTCATTTCAACAAATACA
 GTAGCAAGTCTGATGTCTGGTCGTTTCGGAGTTTTAATGTGGGAAGTTTTTACAGAAGAAAAATGCCTTT
 TGAAAAAAGTCAAAATTTGCAAGTGGTGAAGCCATTTCTCAAGTTTTCCGGCTGTATCGTCTCACCTG
 GCCCCATGACCATATACAGAGTGTACAGTTGCTGGCATGAGAGCCCTAAAGGCCGTCGACATTTG
 CTGAGCTGCTCAGGTTCTCACGGAGATCGCAGAAACGTGG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR227612 representing NM_001122754
 Red=Cloning site Green=Tags(s)

MILSSYSSFQSVLCCCCRCVQKRVQRTQISLSREEELSEKHSQRQRPWFAKLMGKTQSNRGGVQPSKR
 KPLPPLPQEPDERIQVKALYDFLPREPGLALKRAEYLIILERCDPHWWKARDRFNGEGLIPSNYVTEN
 RLANLEIYEWYHKNI TRNQTERLLRQEAKGAFIVRDSRHLGSYTISVFTRARRHTQSSIKHYQIKKND
 GQWYITERHLFSPVELIQYHQYNAAGLISRLRYPIGLLGSLPATSGFSYEKWEIDPSELAFVKEIGSG
 QFGVVHLGEWRAHIPVAIKAINEGSMSEEDFIEEAKVMMKLSHSRLVQLYGVCIQKPLYIVTEFMENGC
 LLDYL RERKGLQKALLLSMCQDICEGMAYLERSCYIHRDLAARNCLVSSACVVKISDFGMARYVLDDEY
 ISSSGAKFPVKWCPPEVHFHFNKYSKSDVWSFGLMWEVFTGKMPFENKSNLQVVEAISQGFRLYRPHL
 APMTIYRVMYSCWHESPKGRPTFAELLQVLTEIAETW

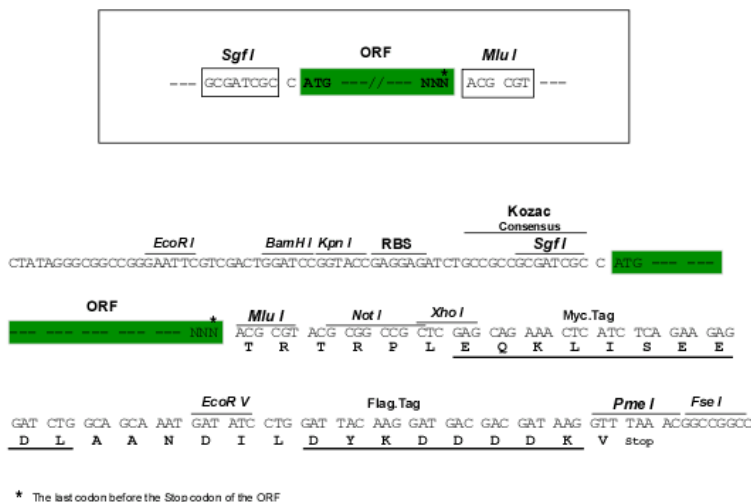
TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



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:
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

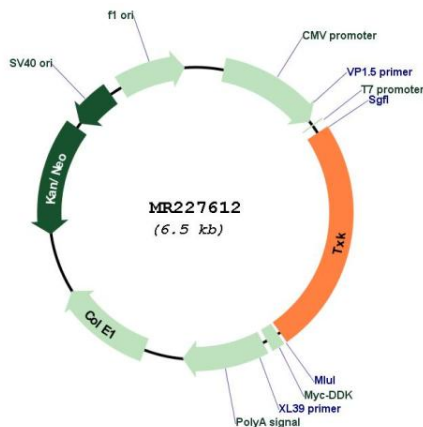
UniProt ID: [P42682](#)

Cytogenetics: 5 38.44 cM

MW: 61.6 kDa

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]

Product images:



Circular map for MR227612