

## Product datasheet for **MC217443**

### **Txk (NM\_013698) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Txk (NM_013698) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Txk
Synonyms:	A130089B16Rik; Btkl; PTK-RL-18; PTK4; Rlk
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**Fully Sequenced ORF:** >MC217443 representing NM\_013698  
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGCGATCGCC

ATGATCTCCTTTTCAGATAGCTCCTTCCAGTCTGTTCTCTGCTGCTGCTGTTGCCGTGCTCAGTACAGA  
AGAGACAGGTGAGAACTCAGATAAGCCTGAGCAGAGAGGAAGAACTCTCAGAAAAACATCCAGCGTCA  
GAGGCCGTGGTTCGCCAAACTGATGGGCAAAACCAATCCAACAGAGCGGGGTGAACCCCTCGAAGCGC  
AAGCCGCTGCCCCCTCCCGCAGGAGCCTCCAGATGAGAGAATCCAGGTCAAGGCTCTTTATGACTTCC  
TGCCTCGGAGCCTGGTAATTTGGCACTGAAGAGAGCGGAGGAATATCTGATATTGGAGAGGTGTGATCC  
TCACTGGTGAAGGCCAGAGACCCTTCGGGAATGAAGGCTTAATCCAAGCAACTATGTGACAGAAAAAC  
AGACTCGCAACTTAGAAATCTATGAATGGTACCACAAGAACATTACGAGAAACCAGACCGAACGCCTAT  
TGAGGCAAGAGGCTAAAGAAGGTGCCTTATCGTGAGAGATTGAGACACTTGGGGTCTTACACAATCTC  
TGTGTTTACAAGAGCTCGAAGGCATACACAGTCTCAATAAAACATTATCAGATAAAAAAGAATGACTCC  
GGACAGTGGTACATCACCGAAAGACATCTTCCCTCAGTCCCCGAGTTGATCCAGTATACCAGTACA  
ATGCAGCTGGTCTCATATCTCGTCTCCGCTATCCCATGGGCTCCTGGGCAGCTGTTTACCAGCCACATC  
TGGTTTTAGCTATGAAAAGTGGGAGATAGATCCATCAGAGTTGGCTTTTGTCAAGGAGATCGGAAGTGGT  
CAGTTTGGGGTGTCCACTTAGGAGAAATGGAGAGCACATATCCCGGTCGCCATCAAGGCCATCAATGAAG  
GTTCCATGTCTGAAGAAGACTTCATTGAGGAAGCCAAGGTGATGATGAACTGTCACATTCGAGGTTAGT  
TCAACTTTACGGGGTGTGTATACAGCAGAAGCCCTGTACATAGTGACGGAGTTCATGGAGAACGGCTGC  
CTGCTTGACTATCTCAGGGAGAGGAAAGCCAGCTTCAGAAGCGCTGCTCTTGAGCATGTGCCAAGACA  
TATGTGAAGGGATGGCGTACCTGGAGAGGAGCTGCTATATCACAGGGATCTGGCTGCCAGGAAGTGT  
GGTCAGTTCTGCCTGCGTAGTAAAGATCTCAGACTTCGGCATGGCGAGGTATGTTTTGGACGATGAATAT  
ATCAGTCTTCTGGAGCTAAGTTCACAGTCAAGTGGTGGCCACCTGAAAGTCTTTCATTTCAACAAATACA  
GTAGCAAGTCTGATGTCTGGTCGTTTCGGAGTTTTAATGTGGGAAGTTTTTACAGAAGAAAAATGCCTTT  
TGAAAAAAGTCAAAATTTGCAAGTGGTGGGAAGCCATTTCTCAAGGTTTCCGGCTGTATCGTCTCACCTG  
GCCCCATGACCATATACAGAGTGTACAGTTGCTGGCATGAGAGCCCTAAAGGCCGTCGACATTTG  
CTGAGCTGCTCAGGTTCTCACGGAGATCGCAGAAACGTGGTGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** Sgfl-Mlul

**ACCN:** NM\_013698

**Insert Size:** 1584 bp

**OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**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\\_013698.3](#), [NP\\_038726.2](#)

**RefSeq Size:** 2344 bp

**RefSeq ORF:** 1584 bp

**Locus ID:** 22165

**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]

Transcript Variant: This variant (2) differs in the 5' UTR, lacks a portion of the 5' coding region, and initiates translation at an alternate start codon, compared to variant 1. The encoded isoform (2) has a distinct N-terminus but is the same size as isoform 1.