

## Product datasheet for **RC213356**

### **TXK (NM\_003328) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	TXK (NM_003328) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	TXK
Synonyms:	BTKL; PSCTK5; PTK4; RLK; TKL
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC213356 representing NM\_003328  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGATCCTTTCTCTATAACACCATCCAGTCGGTTTTCTGTTGCTGCTGTTGCTGTTTCAGTGCAGAAGC  
 GACAAATGAGAACACAGATAAGCCTGAGCACAGATGAAGAGCTTCCAGAAAAATACACCCAGCGTCGCAG  
 GCCGTGGCTCAGCCAATTGTCAAATAAGAGCAATCCAACACGGGCCGTGTGCAGCCGTCAAAACGAAAG  
 CCACTGCCTCCCCTCCACCCCTCTGAGGTTGCTGAAGAGAAGATCCAAGTCAAGGCACCTTTATGATTTTC  
 TGCCAGAGAACCCTGTAATTTAGCCTTAAGGAGAGCAGAAGAATACCTGATACTGGAGAAATACAATCC  
 TCACTGGTGAAGGCAAGAGACCGTTTTGGGGAATGAAGGCTTAATCCAAGCAACTATGTGACTGAAAAC  
 AAAATAACTAATTTAGAAATATATGAGTGGTACCATAGAAACATTACCAGAAATCAGGCAGAACATCTAT  
 TGAGACAAGAGTCTAAAGAAGGTGCATTTATTGTCAGAGATTCAAGACATTTAGGATCCTACACAATTTTC  
 CGTATTTATGGGAGCTAGAAGAAGTACGGAGGCTGCCATAAAACATTATCAGATAAAAAAGAAATGACTCA  
 GGACAGTGGTATGTGGCTGAAAGACACGCCTTTCAATCAATCCCTGAGTTAATCTGGTATACCAGCACA  
 ATGCAGCCGGTCTCATGACTCGTCTCCGATATCCAAGTGGGCTGATGGGAGTTGTTTACCAGCCACAGC  
 TGGGTTTAGCTACGAAAAGTGGGAGATAGATCCATCTGAGTTGGCTTTTATAAAGGAGATTGGAAGCGGT  
 CAGTTTGGAGTGGTCCATTTAGGTGAATGGCGGTACATATCCAGGTAGCTATCAAGGCCATCAATGAAG  
 GCTCCATGTCTGAAGAGGATTTCAATGAAGAGGCCAAAGTGAATGAAATATCTCATTCAAAGCTAGT  
 GCAACTTTATGGAGTCTGTATACAGCGGAAGCCCTTTACATTGTGACAGAGTTCATGGAAAATGGCTGC  
 CTGCTTAACTATCTCAGGGAGAATAAAGGAAAGCTTAGGAAGGAAATGCTACTGAGTGTATGCCAGGATA  
 TATGTGAAGGAATGGAATATCTGGAGAGGAATGGCTATATTCATAGGGATTTGGCGCAAGGAATTTGTT  
 GGTCAGTTCAACATGCATAGTAAAAATTTAGACTTTGGAATGACAAGGTACGTTTTGGATGATGAGTAT  
 GTCAGTCTTTTTGGAGCCAAGTTCCAATCAAGTGGTCCCTCCTGAAGTTTTCTTTTCAATAAGTACA  
 GCAGTAAATCTGATGTCTGGTCAATTTGGAGTTTTAATGTGGGAAGTTTTTACAGAAGGAAAAATGCCTTT  
 TGAAAATAAGTCAAATTTGCAAGTCGTGGAAGCTATTTCTGAAGGCTTCAGGCTATATCGCCCTCACCTG  
 GCACCAATGTCCATATATGAAGTCATGTACAGTGTGGCATGAGAAACCTGAAGGCCGCCCTACATTTG  
 CCGAGCTGCTGCGGGCTGTCACAGAGATTGCGGAAACCTGG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC213356 representing NM\_003328  
 Red=Cloning site Green=Tags(s)

MILSSYNTIQSVFCCCCSVQKRQMRQISLSTDEELPEKYTQRRRPWLSQLSNKKQSNTGRVQPSKRK  
 PLPLPPSEVAEEKIQVKALYDFLPREPCNLALRRAEYLIILEKYNPHWWKARDRLGNEGLIPSNYVTEN  
 KITNLEIYEWYHRNITRQAHELLRQESKEGAFIVRDSRHLGYSYISVFMGARRSTEAAIKHYQIKKND  
 GQWYVAERHAFQSIPELIYWHQHNAAGLMTRLRYPVGLMGSLPATAGFSYEKWEIDPSELAFIKEIGSG  
 QFGVHLGEWRSHIQVAIKAINEGSMSEEDFIEEAKVMMKLSHSLVQLYGVCIQRKPLYIVTEFMENGC  
 LLNYLRENKGLRKEMLLSVCQDICEGMEYLERNGYIHRDLAARNCLVSSTCIVKISDFGMTRYVLDDEY  
 VSSFAGAKFPIKWSPEVFLFNKYSSKSDVWSFGLMWEVFTGKMPFENKSNLQVVEAISEGRLYRPHL  
 APMSIYEVMYSCWHEKPEGRPTFAELLRAVTEIAETW

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_003328

**ORF Size:** 1581 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](mailto: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](#)

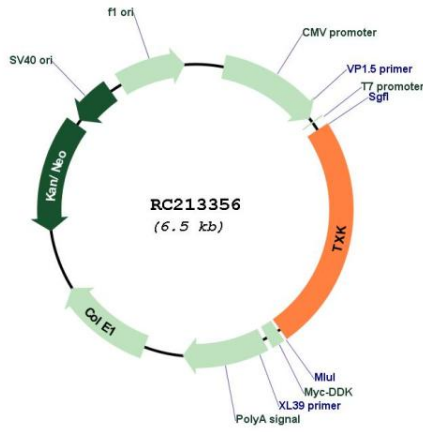
**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**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:	<a href="#">NM_003328.3</a>
RefSeq Size:	2564 bp
RefSeq ORF:	1584 bp
Locus ID:	7294
UniProt ID:	<a href="#">P42681</a>
Cytogenetics:	4p12
Domains:	pkinase, SH2, SH3
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	Leukocyte transendothelial migration
MW:	61.1 kDa
Gene Summary:	<p>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]</p>

Product images:



Circular map for RC213356