

Product datasheet for **SC128174**

TXK (NM_003328) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	TXK (NM_003328) Human Untagged Clone
Tag:	Tag Free
Symbol:	TXK
Synonyms:	BTKL; PSCTK5; PTK4; RLK; TKL
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >OriGene ORF within SC128174 sequence for NM_003328 edited (data generated by NextGen Sequencing)

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ATGATCCTTTCTCTATAACACCATCCAGTCGGTTTTCTGTTGCTGCTGTTGCTGTTCA
GTGCAGAAGCGACAAATGAGAACACAGATAAGCCTGAGCACAGATGAAGAGCTTCCAGAA
AAATACACCCAGCGTCGACAGCCGTGGCTCAGCCAATTGTCAAATAAGAAGCAATCCAAC
ACGGGCCGTGTGCAGCCGTCAAAACGAAAGCCACTGCCTCCCCTCCCACCCTCTGAGGTT
GCTGAAGAGAAGATCCAAGTCAAGGCACTTTATGATTTTTCTGCCAGAGAACCCTGTAAT
TTAGCCTTAAGGAGAGCAGAAGAATACCTGATACTGGAGAAATACAATCCTCACTGGTGG
AAGGCAAGAGACCGTTTTGGGAATGAAGGCTTAATCCCAAGCAACTATGTGACTGAAAAAC
AAAATAACTAATTTAGAAATATATGAGTGGTACCATAGAAACATTACCAGAAATCAGGCA
GAACATCTATTGAGACAAGAGTCTAAAGAAGGTGCATTTATTGTCAGAGATTCAAGACAT
TTAGGATCTACACAATTTCCGTATTTATGGGAGCTAGAAGAAGTACGGAGGCTGCCATA
AAACATTATCAGATAAAAAAGAATGACTCAGGACAGTGGTATGTGGCTGAAAGACACGCC
TTTCAATCAATCCCTGAGTTAATCTGGTATCACCAGCACAAATGCAGCCGGTCTCATGACT
CGTCTCCGATATCCAGTTGGGCTGATGGGCAGTTGTTTACCAGCCACAGCTGGGTTTAGC
TAGGAAAAGTGGGAGATAGATCCATCTGAGTTGGCTTTTATAAAGGAGATTGGAAGCGGT
CAGTTTGGAGTGGTCCATTTAGGTGAATGGCGGTACATATCCAGGTAGCTATCAAGGCC
ATCAATGAAGGCTCCATGTCTGAAGAGGATTTCAATTGAAGAGGCCAAAGTATGATGAAA
TTATCTCATTCAAAGCTAGTGCAACTTTATGGAGTCTGTATACAGCGGAAGCCCTTTAC
ATTGTGACAGAGTTTATGGAAAAATGGCTGCCTGCTTAACATCTCAGGGAGAATAAAGGA
AAGCTTAGGAAGGAAATGCTACTGAGTGTATGCCAGGATATATGTGAAGGAATGGAATAT
CTGGAGAGGAATGGCTATATTCATAGGGATTTGGCGCAAGGAATGTTTGGTCAAGTCA
ACATGCATAGTAAAAATTTGACACTTTGGAATGACAAGTACGTTTTGGATGATGAGTAT
GTCAGTTCTTTTGGAGCCAAAGTTCCCAATCAAGTGGTCCCTCCTGAAGTTTTCTTTTC
AATAAGTACAGCAGTAAATCTGATGTCTGGTCAATTTGGAGTTTTAATGTGGGAAGTTTTT
ACAGAAGGAAAAATGCCTTTTAAAAATAAGTCAAATTTGCAAGTCGTGGAAGCTATTTCT
GAAGGCTTCAGGCTATATCGCCCTCACCTGGCACCAATGTCCATATATGAAGTCATGTAC
AGCTGCTGGCATGAGAAACCTGAAGGCCGCCCTACATTTGCCAGCTGCTGCGGGCTGTC
ACAGAGATTGCGGAAACCTGGTGA
    
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Clone variation with respect to NM_003328.2

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_003328 unedited

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GTTCAAAATTTGTAATACGAACACTACTATAGGGCGGCCGGAATTTCGACGAGGAGCACC
GCAGAAGAACTGAAGACTGTTGTGTGCTCCCCGCAGAAGGGGCTACCATGATCCTTTCT
CCTATAACACCATCCAGTCGGTTTTCTGTTGCTGCTGTTGCTGTTTCAGTGCAGAAGCGAC
AAATGAGAACACAGATAAGCCTGAGCACAGATGAAGAGCTTCCAGAAAAATACACCCAGC
GTCGCAGGCCGTGGCTCAGCCAATTGTCAAATAAGAAGCAATCCAACACGGGCCGTGTGC
AGCCGTCAAAAACGAAAGCCACTGCCTCCCCTCCCACCCTCTGAGGTTGCTGAAGAGAAGA
TCCAAGTCAAGGCACTTTATGATTTTTCTGCCAGAGAACCCTGTAATTTAGCCTTAAGGA
GAGCAGAAGAATACCTGATACTGGAGAAATACAATCCTCACTGGTGAAGGCAAGAGACC
GTTTGGGGAATGAAGGCTTAATCCCAAGCAACTATGTGACTGAAAAAAAATAACTAATT
TAGAAATATATGAGTGGTACCATAGAAACATTACCAGAAATCAGGCAGAACATCTATTGA
GACAAGAGTCTAAAGAAGGTGCATTTATTGTCAGAGATTCAAGACATTTAGGATCCTACA
CAATTTCCGTATTTATGGGAGCTAGAAGAAGTACGGAGGCTGCCATAAAACATTATCAGA
TAAAAAAGAATGACTCANGACAGTGGTATGTGGCTGANAGACACGCCCTTCAATCAATCC
CTGAGTTAATCTGGTATCACCAGCACAATGCAGCCGGTCTCATGACTCGTCTCCGATATC
CAGTTGGGCTGATGGGCAC
    
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Restriction Sites:

Please inquire

ACCN:

NM_003328

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](#)

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_003328.1](#), [NP_003319.1](#)

RefSeq Size: 2564 bp

RefSeq ORF: 1584 bp

Locus ID: 7294

UniProt ID: [P42681](#)

Cytogenetics: 4p12

Domains: pkinase, SH2, SH3

Protein Families: Druggable Genome, Protein Kinase

Protein Pathways: Leukocyte transendothelial migration

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]