

Product datasheet for **RG218280**

Thymidine Kinase 1 (TK1) (NM_003258) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Thymidine Kinase 1 (TK1) (NM_003258) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Thymidine Kinase 1
Synonyms:	TK2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG218280 representing NM_003258. Blue=ORF Red=Cloning site Green=Tag(s)

```
GCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGCCGGGAATTCGTCGACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
ATGAGCTGCATTAACCTGCCACTGTGCTGCCTGGCTCCCCAGCAAGACCCGGGGGCAGATCCAGGTG
ATTCTCGGGCCGATGTTCTCAGGAAAAAGCACAGAGTTGATGAGACGCGTCCGTCGCTTCCAGATTGCT
CAGTACAAGTGCCTGGTATCAAGTATGCCAAAGACACTCGCTACAGCAGCAGCTTCTGCACACATGAC
CGAACACCATGGAGGCACTGCCCGCTGCCTGCTCCGAGACGTGGCCAGGAGGCCCTGGGCGTGGCT
GTCATAGGCATCGACGAGGGCAGTTTTCCCTGACATCGTGGAGTTCTGCGAGGCCATGCCAACGCC
GGGAAGACCGTAATTGTGGCTGCACTGGATGGGACCTTCCAGAGGAAGCCATTTGGGGCCATCCTGAAC
CTGGTCCCGCTGGCCGAGAGCGTGGTGAAGCTGACGGCGGTGTGCATGGAGTGTTCGGGAAGCCGCC
TATACCAAGAGGCTCGGCACAGAGAAGGAGGTCGAGGTGATTGGGGGAGCAGACAAGTACCACTCCGTG
TGTCCGCTCTGCTACTTCAAGAAGGCCTCAGGCCAGCCTGCCGGGCCGACAACAAGAGAAGTCCCA
GTGCCAGGAAAGCCAGGGGAAGCCGTGGCTGCCAGGAAGCTTTTCCCCACAGCAGATTCTGCAATGC
AGCCCTGCCAAC
ACGGGCCCGCTCGAG - GFP Tag - GTTTAAAC
```



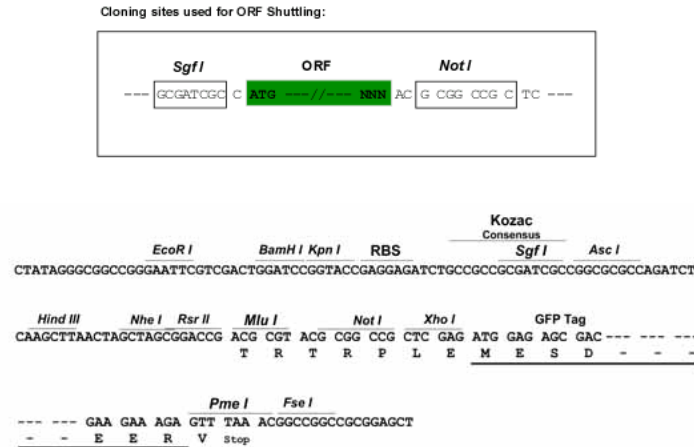
[View online »](#)

Protein Sequence: >Peptide sequence encoded by RG218280
 Blue=ORF Red=Cloning site Green=Tag(s)

MSCINLPTVLPSPSKTRGQIQVILGPMFSGKSTELMRRVRRFQIAQYKCLVIKYAKDTRYSSSFCTHD
 RNTMEALPACLRDAQEALGVAVIGIDEGQFFPDIVFCEAMANAGKTIVAAALDGTFRKPFGAILN
 LVPLAESVVKLTAVCMECFREAAATKRLGTEKEVEVIGGADKYHVCRLCYFKKASGQPAGPDNKENCP
 VPGKPGEAVAARKLFAPQQILQCSPAN
 TRPLEMESDESGLPAMEIECRITGTLNGVEFELVGGEGTPEQGRMTNKMSTKGALTFSPYLLSHVMG
 YGFYHFGTYPSTYENPFLHAINNGGYTNTRIEKYEDGGVLHVSFSYRYEAGRIVIGDFKVMGTGFPEDSV
 IFTDKIIRSNATVEHLHPMGDNDLDGSFTRTFLRDGGYSSVVDSHMHFKSAIHPSILQNGGPMFAFR
 RVEEDHSNTELGIVEYQHAFKTPDADAGEERV

Restriction Sites: SgfI-NotI

Cloning Scheme:



ACCN: NM_003258

ORF Size: 702 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_003258.5](#)

RefSeq Size: 1421 bp

RefSeq ORF: 705 bp

Locus ID: 7083

UniProt ID: [P04183](#)

Cytogenetics: 17q25.3

Domains: TK

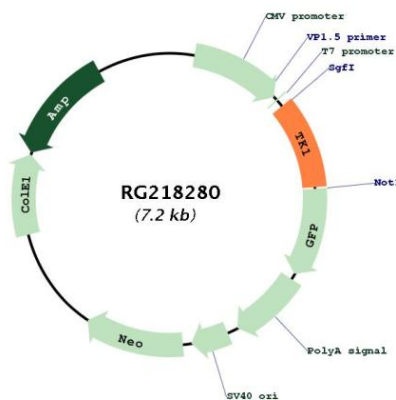
Protein Families: Druggable Genome, Stem cell - Pluripotency

Protein Pathways: Drug metabolism - other enzymes, Metabolic pathways, Pyrimidine metabolism

MW: 25.5 kDa

Gene Summary: The protein encoded by this gene is a cytosolic enzyme that catalyzes the addition of a gamma-phosphate group to thymidine. This creates dTMP and is the first step in the biosynthesis of dTTP, which is one component required for DNA replication. The encoded protein, whose levels fluctuate depending on the cell cycle stage, can act as a low activity dimer or a high activity tetramer. High levels of this protein have been used as a biomarker for diagnosing and categorizing many types of cancers. [provided by RefSeq, Oct 2016]

Product images:



Circular map for RG218280