

Product datasheet for **RC218280**

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: Myc-DDK
Symbol: Thymidine Kinase 1
Synonyms: TK2
Mammalian Cell Selection: Neomycin
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
ORF Nucleotide Sequence: >RC218280 representing NM_003258.
Blue=ORF Red=Cloning site Green=Tag(s)

```
GCTCGTTTGTAGTAACCGTCAGAATTTTGTAAACGACTACTATAGGGCGCCGGGAATTCGTCGACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
ATGAGCTGCATTAACCTGCCACTGTGCTGCCTGGCTCCCCAGCAAGACCCGGGGCAGATCCAGGTG
ATTCTCGGGCCGATGTTCTCAGGAAAAGCACAGAGTTGATGAGACGCGTCCGTCGCTTCCAGATTGCT
CAGTACAAGTGCCTGGTATCAAGTATGCCAAAGACACTCGTACAGCAGCAGCTTCTGCACACATGAC
CGGAACACCATGGAGGCACTGCCCGCTGCCTGCCGAGACGTGGCCAGGAGGCCCTGGGCGTGGCT
GTCATAGGCATCGACGAGGGCAGTTTTCCCTGACATCGTGGAGTTCTGCGAGGCCATGCCAACGCC
GGGAAGACCGTAATTGTGGCTGCACTGGATGGGACCTTCCAGAGGAAGCCATTTGGGGCCATCCTGAAC
CTGGTGCCGCTGGCCGAGAGCGTGGTGAAGCTGACGGCGGTGTGCATGGAGTGCTCCGGGAAGCCGCC
TATACCAAGAGGCTCGGCACAGAGAAGGAGGTCGAGGTATTGGGGGAGCAGACAAGTACCACTCCGTG
TGTCCGCTCTGCTACTTCAAGAAGGCCTCAGGCCAGCCTGCCGGCCGGACAACAAGAGAAGTCCCA
GTGCCAGGAAAGCCAGGGGAAGCCGTGGCTGCCAGGAAGCTTTTCCCCACAGCAGATTCTGCAATGC
AGCCCTGCCAAC
ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATTACAAG
GATGACGACGATAAGGTTTAAACGGCCGGCCGCGT
```

Protein Sequence: >Peptide sequence encoded by RC218280
Blue=ORF Red=Cloning site Green=Tag(s)

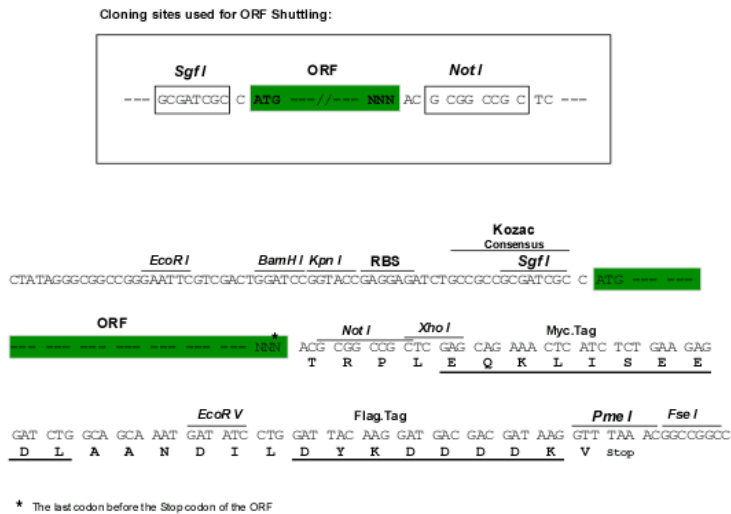
```
MSCINLPTVLPSPSKTRGQIQVILGPMFSGKSTELMRRVRRFQIAQYKCLVIKYAKDTRYSSSFCTHD
RNTMEALPAQLLRDVAQEALGVAVIGIDEGQFFPDIVEFCEAMANAGKTVIVAALDGTFRKPFGAILN
LVPLAESVVKL TAVCMECFREAAYTKRLGTEKEVEVIGGADKYHSVCRCLCYFKKASGQPAGPDNKENCP
VPGKPGEAVAARKLFAPQQILQCPAN
TRPLEQKLI SEEDLAANDILDYKDDDDKV
```



Chromatograms: https://cdn.origene.com/chromatograms/ja1475_h03.zip

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](#)

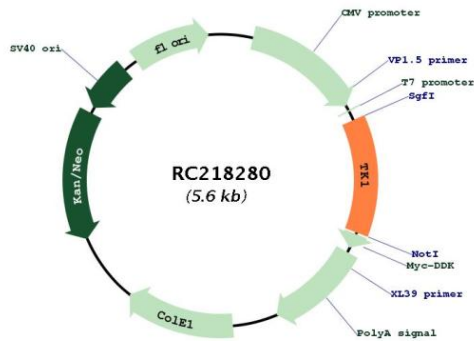
RefSeq Size: 1616 bp

RefSeq ORF: 705 bp

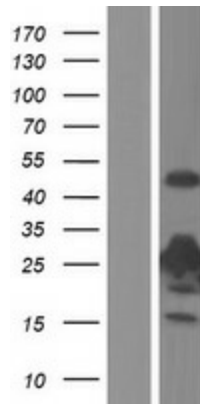
Locus ID: 7083

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 RC218280



Western blot validation of overexpression lysate (Cat# [LY418805]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC218280 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).