

Product datasheet for **SC317459**

Thymidine Kinase 2 (TK2) (NM_004614) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Thymidine Kinase 2 (TK2) (NM_004614) Human Untagged Clone
Tag:	Tag Free
Symbol:	Thymidine Kinase 2
Synonyms:	MTDPS2; MTTK; PEOB3; SCA31
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>NCBI ORF sequence for NM_004614, the custom clone sequence may differ by one or more nucleotides

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ATGCTGCTGTGGCCGCTGCGGGGCTGGGCCGCCGGGCGCTGCGCTGCTTTGGGCCGGAAGTCGCGGGA  
GCCCGGCCTCAGGCCCGGGCCGCGAGGGTGCAGCGCCGGCCTGGCCTCCCGATAAAGAACAGGAAAA  
AGAGAAAAATCAGTGATCTGTGTCGAGGGCAATATTGCAAGTGGGAAGACGACATGCCTGGAATCTTC  
TCCAACGCGACAGACGTCGAGGTGTTAACGGAGCCTGTGTCCAAGTGGAGAAATGCCGTGGCCACAATC  
CTCTGGGCCTGATGTACCACGATGCCTCTCGTGGGGTCTTACGCTACAGACTTATGTGCAGCTCACCAT  
GCTGGACAGGCATACTCGTCTCAGGTGTCATCTGTACGGTTGATGGAGAGGTCGATTACAGCGCAAGA  
TACATTTTGTAGAAAACCTGTATAGAAGTGGGAAGATGCCAGAAGTGGACTATGTAGTTCTGTCGGAAT  
GGTTTGACTGGATCTTGAGGAACATGGACGTGTCTGTTGATTTGATAGTTTACCTTCGGACCAATCCTGA  
GACTTGTTACCAGAGGTTAAAGAAGAGATGCAGGGAAGAGGAGAAGGTCATTCCGCTGGAATACCTGGAA  
GCAATTCACCATCTCCATGAGGAGTGGCTCATCAAAGGCAGCCTTTTCCCATGGCAGCCCTGTCTCG  
TGATTGAGGCTGACCACCACATGGAGAGGATGTTAGAACTCTTTGAACAAAATCGGGATCGAATATTAAC  
TCCAGAGAATCGGAAGCATTGCCATAG
```

Restriction Sites:	Please inquire
ACCN:	NM_004614



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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](#)

OTI Annotation: This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

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_004614.3](#), [NP_004605.3](#)

RefSeq Size: 3675 bp

RefSeq ORF: 924 bp

Locus ID: 7084

UniProt ID: [O00142](#)

Cytogenetics: 16q21

Domains: dNK

Protein Families: Druggable Genome

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

Gene Summary:

This gene encodes a deoxyribonucleoside kinase that specifically phosphorylates thymidine, deoxycytidine, and deoxyuridine. The encoded enzyme localizes to the mitochondria and is required for mitochondrial DNA synthesis. Mutations in this gene are associated with a myopathic form of mitochondrial DNA depletion syndrome. Alternate splicing results in multiple transcript variants encoding distinct isoforms, some of which lack transit peptide, so are not localized to mitochondria. [provided by RefSeq, Dec 2012]

Transcript Variant: This variant (1) represents the longest transcript and encodes the longest isoform (1). Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.