

Product datasheet for **RG229762**

Thymidine Kinase 2 (TK2) (NM_001172645) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Thymidine Kinase 2 (TK2) (NM_001172645) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	TK2
Synonyms:	MTDPS2; MTTK; PEOB3; SCA31
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG229762 representing NM_001172645 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCTGCTGTGGCCGCTGCGGGGCTGGCCGCCCGGGCGCTGCGCTGCTTTGGCCGGGAAGTCGCGGGA
GCCCGGCCTCAGGCCCGGGCCGCGGAGGGTGCAGCGCCGGCCCTGGCCTCCCGATAAAGAACAGGAAAA
AGAGAAAAATCAGTGATCTGTGTCGAGGGCAATATTGCAAGTGGGAAGACGACATGCCTGGAATCTTC
TCCAACGCGACAGACGTGAGGGCCTGATGTACCACGATGCCTCTCGCTGGGTCTTACGCTACAGACTT
ATGTGCAGCTCACCATGTGGACAGGCATACTCGTCCTCAGGTGTCATCTGTACGTTGATGGAGAGGTC
GATTCACAGCGCAAGATACATTTTTGTAGAAAACCTGTATAGAAGTGGGAAGATGCCAGAAGTGGACTAT
GTAGTTCTGTGCGAATGTTTACTGGATCTTGAGGAACATGGACGTGTCTGTTGATTTGATAGTTTACC
TTCGACCAATCCTGAGACTTGTACCAGAGGTTAAAGAAGAGATGCAGGGAAGAGGAGAAGGTCATTCC
GCTGGAATACCTGGAAGCAATTCACCATCTCCATGAGGAGTGGCTCATCAAAGGCAGCCTTTTCCCATG
GCAGCCCCTGTTCTGGTGATTGAGGCTGACCACCACATGGAGAGGATGTTAGAACTCTTTGAACAAAATC
GGGATCGAATATTAACCTCAGAGAATCGGAAGCATTGCCCA

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >RG229762 representing NM_001172645
 Red=Cloning site Green=Tags(s)

MLLWPLRGWAARALRCFPGPSRGPASGPGPRRVQRRWPPDKEQEKEKKSIVICVEGNIASGKTTCLEFF
 SNATDVEGLMYHDASRWGLTLQTYVQLTMLDRHTRPQVSSVRLMERSIHSARYIFVENLYRSGKMPEVDY
 VVLSEWFDWILRNMDVSDLVLYLRTNPETCYQLKKRCREEEKVIPLEYLEAIHHLHEEWLIKGSFLFPM
 AAPVLVIEADHHMERMLELFEQNRDRILTPENRKHCP

TRTRPLE - GFP Tag - V

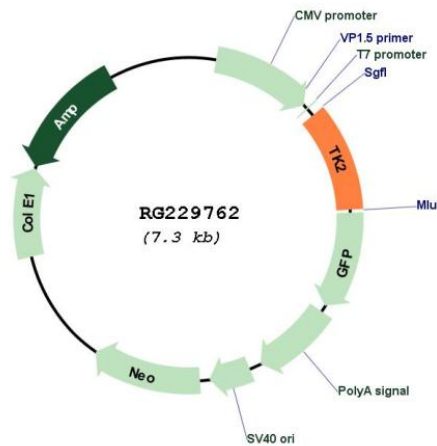
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_001172645

ORF Size: 741 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:	<ol style="list-style-type: none">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_001172645.1 , NP_001166116.1
RefSeq Size:	5060 bp
RefSeq ORF:	744 bp
Locus ID:	7084
Cytogenetics:	16q21
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]