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Product datasheet for RC229735

Thymidine Kinase 2 (TK2) (NM_001172643) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Thymidine Kinase 2 (TK2) (NM_001172643) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	TK2
Synonyms:	MTDPS2; MTTK; PEOB3; SCA31
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RC229735 representing NM_001172643 Red=Cloning site Blue=ORF Green=Tags(s) TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC GCCGCGATCGCC ATGGGTGCGTTCTGCCAGCGTCCTAGCAGTGATAAAGAACAGGAAAAAGAGAAAAAATCAGTGATCTGTG TCGAGGGCAATATTGCAAGTGGGAAGACGACATGCCTGGAATTCTTCTCCAACGCGACAGACGTCGAGGT GTTAACGGAGCCTGTGTCCAAGTGGAGAAATGTCCGTGGCCACAATCCTCTGGGCCTGATGTACCACGAT GCCTCTCGCTGGGGTCTTACGCTACAGACTTATGTGCAGCTCACCATGCTGGACAGGCATACTCGTCCTC AGGTGTCATCTGTACGGTTGATGGAGAGGTCGATTCACAGCGCAAGATACATTTTTGTAGAAAACCTGTA TAGAAGTGGGAAGATGCCAGAAGTGGACTATGTAGTTCTGTCGGAATGGTTTGACTGGATCTTGAGGAAC ATGGACGTGTCTGTTGATTTGATAGTTTACCTTCGGACCAATCCTGAGACTTGTTACCAGAGGTTAAAGA AGAGATGCAGGGAAGAGGAGAAGGTCATTCCGCTGGAATACCTGGAAGCAATTCACCATCTCCATGAGGA GTGGCTCATCAAAGGCAGCCTTTTCCCCATGGCAGCCCCTGTTCTGGTGATTGAGGCTGACCACCACATG GAGAGGATGTTAGAACTCTTTGAACAAAATCGGGATCGAATATTAACTCCAGAGAATCGGAAGCATTGCC CA ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT ACAAGGATGACGACGATAAGGTTTAA

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Protein Sequence:

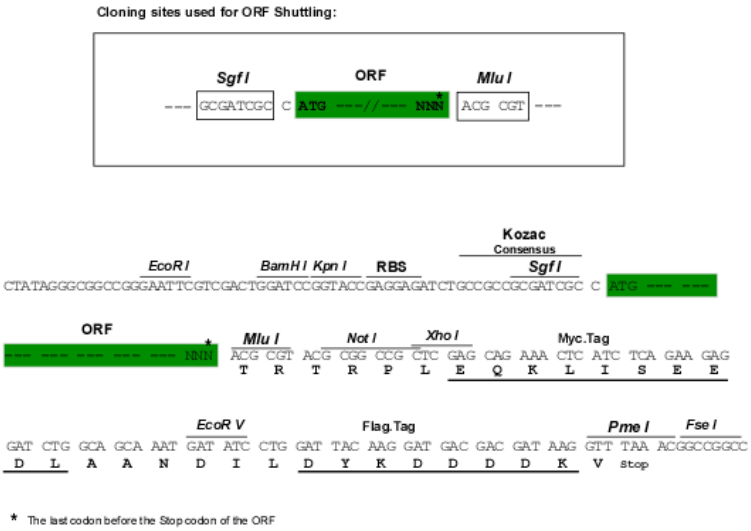
>RC229735 representing NM_001172643
Red=Cloning site Green=Tags(s)

MGAFCQRPSSDKEQEKEKKSVICVEGNIASGKTTCLEFFSNATDVEVLTEPVSKWRNVRGHNPLGLMYHD
ASRWGLTLQTYVQLTMLDRHTRPQVSSVRLMERSIHSARYIFVENLYRSGKMPEVDYVVLSEWFDWILRN
MDVSVDLIVYLRTNPETCYQRLKKRCREEEKVIPLEYLEAIHHLHEEWLIKGSLFPMAAPVLVIEADHHM
ERMLELFEQNRDRILTPENRKHCP

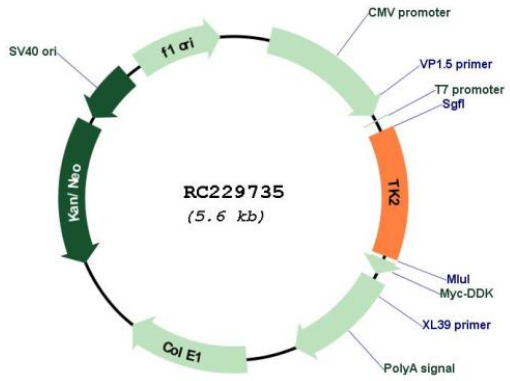
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001172643

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_001172643.1, NP_001166114.1
RefSeq ORF:	705 bp
Locus ID:	7084
UniProt ID:	O00142
Cytogenetics:	16q21
Protein Families:	Druggable Genome
Protein Pathways:	Drug metabolism - other enzymes, Metabolic pathways, Pyrimidine metabolism
MW:	28 kDa
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]