

## Product datasheet for RC224501

### CKMT2 (NM\_001099735) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CKMT2 (NM_001099735) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CKMT2
Synonyms:	SMTCK
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC224501 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCCAGTATCTTTTCTAAGTTGCTAACTGGCCGCAATGCTTCTCTGCTGTTTGTACCATGGGCACCA  
GTGTCCTGACCACCGGTACCTGCTGAACCGGCAGAAAGTGTGTGCCGAGGTCCGGGAGCAGCCTAGGCT  
ATTTCTCCAAGCGCAGACTACCCAGACCTGCGCAAGCACAACAAGTGCATGGCCGAGTGCCTCACCC  
GCCATTTATGCCAAGCTTCGCAACAAGGTGACACCAACGGCTACACGCTGGACCAGTGCATCCAGACTG  
GAGTGGACAACCCTGGCCACCCCTTCATAAAGACTGTGGGCATGGTGGCTGGTGACGAGGAGTCCATGA  
GGTGTGTTGCTGACCTTTTGACCCCGTCATCAAATAAGACACAACGGCTATGACCCAGGGTGTGAAG  
CACACAACGGATCTGGATGCATCAAAGTACCCAAAGGGCAGTTCGACGAGCATTACGTGCTGTCTTCTC  
GGGTGCGCACTGGCCGAGCATCCGTGGGCTGAGCCTGCCTCCAGCCTGCACCCGGGCGGAGCGAAGGGA  
GGTAGAGAACGTGGCCATCACTGCCCTGGAGGGCTCAAGGGGGACCTGGCTGGCCGCTACTACAAGCTG  
TCCGAGATGACGGAGCAGGACCAGCAGCGGCTCATCGATGACCACTTTCTGTTTGATAAGCCAGTGTCC  
CTTTATTAACATGTGCTGGATGGCCCGTACTGGCCAGATGCCAGGGGAATCTGGCATAATTATGATAA  
GACATTTCTCATCTGGATAAATGAGGAGGATCACACCAGGTAATCTCAATGGAAAAAGGAGGCAATATG  
AAACGAGTATTTGAGCGATTCTGCTGGACTAAAAGAAGTGAACGGTTAATCCAAGAAGCAGGCTGGG  
AGTTCATGTGGAATGAGCGCTAGGATACATTTTGACCTGTCTCGAACCTTGGAACAGGACTACGAGC  
TGGTGTCCACGTTAGGATCCCAAAGCTCAGCAAGGACCCACGCTTTTCTAAGATCCTGAAAAACCTAAGA  
CTCCAGAAGCGTGGCACAGGTGGTGTGGACACTGCCGCGTGCAGATGTGTACGACATTTCCAACATAG  
ATAGAATTGGTCGATCAGAGTTGAGCTTGTTCAGATAGTCATCGATGGAGTCAATTACCTGGTGGATTG  
TGAAAAGAAGTTGGAGAGAGGCCAAGATATAAGGTGCCACCCCTCTGCCTCAGTTTGGCAAAAAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >RC224501 protein sequence  
Red=Cloning site Green=Tags(s)

MASIFSKLLTGRNASLLFATMGTSVLTTGYLLNRQKVCAEVREQPRLFPPSADYDPLRKHNMCMAECLTP  
 AIYAKLRNKVTPNGYTLDQCIQTGVDNPGHPFIKTVGMVAGDEESYEYVADLFDPVIKLRHNGYDPRVMK  
 HTTDL DASKITQGFDEHYVLSRVRTGRSIRGLSLPPACTRAERREVENVAITALEGLKGDLAGRYYKL  
 SEMTEQDQQRLLIDDFLFDKPVSPLLTCAGMARDWPDARGIWHNYDKTFLIWIINEEDHTRVISMEKGGNM  
 KRVFERFCRGLKEVERLIQERGWEFMWNERLGYILTCPSNLGTGLRAGVHVRIPKLSKDPFSKILENLR  
 LQKRGTGGVDTAAVADVYDISNIDRIGRSEVELVQIVIDGVNYLV DCEKKLERGQDIKVPPLPQFGKK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6017\\_e05.zip](https://cdn.origene.com/chromatograms/mk6017_e05.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_001099735

**ORF Size:** 1257 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\\_001099735.2](#)

**RefSeq Size:** 1486 bp

**RefSeq ORF:** 1260 bp

**Locus ID:** 1160

**UniProt ID:** [P17540](#)

**Cytogenetics:** 5q14.1

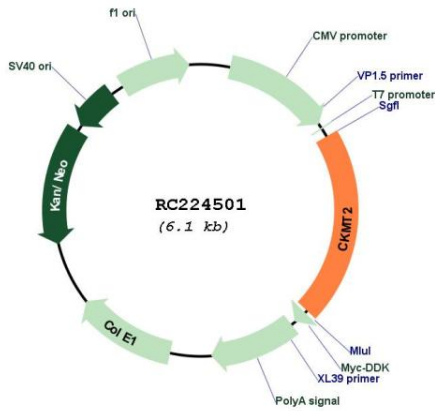
**Protein Families:** Druggable Genome

**Protein Pathways:** Arginine and proline metabolism, Metabolic pathways

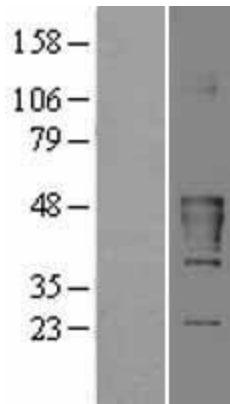
**MW:** 47.5 kDa

**Gene Summary:** Mitochondrial creatine kinase (MtCK) is responsible for the transfer of high energy phosphate from mitochondria to the cytosolic carrier, creatine. It belongs to the creatine kinase isoenzyme family. It exists as two isoenzymes, sarcomeric MtCK and ubiquitous MtCK, encoded by separate genes. Mitochondrial creatine kinase occurs in two different oligomeric forms: dimers and octamers, in contrast to the exclusively dimeric cytosolic creatine kinase isoenzymes. Sarcomeric mitochondrial creatine kinase has 80% homology with the coding exons of ubiquitous mitochondrial creatine kinase. This gene contains sequences homologous to several motifs that are shared among some nuclear genes encoding mitochondrial proteins and thus may be essential for the coordinated activation of these genes during mitochondrial biogenesis. Three transcript variants encoding the same protein have been found for this gene. [provided by RefSeq, Jul 2008]

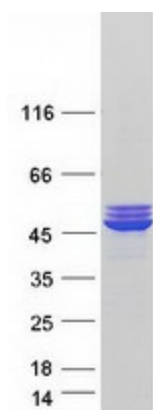
Product images:



Circular map for RC224501



Western blot validation of overexpression lysate (Cat# [LY420508]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC224501 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CKMT2 protein (Cat# [TP324501]). The protein was produced from HEK293T cells transfected with CKMT2 cDNA clone (Cat# RC224501) using MegaTran 2.0 (Cat# [TT210002]).