

## Product datasheet for **RC201972**

### **Methylmalonyl Coenzyme A mutase (MUT) (NM\_000255) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Methylmalonyl Coenzyme A mutase (MUT) (NM_000255) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Methylmalonyl Coenzyme A mutase
Synonyms:	MCM; MUT
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC201972 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGTTAAGAGCTAAGAATCAGCTTTTTTTACTTTACCTCATTACCTGAGGCAGGTTAAAAGAATCATCAG  
 GCTCCAGGCTCATACAGCAACGACTTCTACACCAGCAACAGCCCTTCACCCAGAATGGGCTGCCCTGGC  
 TAAAAAGCAGCTGAAAGGCAAAAACCCAGAAGACCTAATATGGCACACCCCGGAAGGGATCTCTATAAAA  
 CCCTTGTATTCCAAGAGAGATACTATGGACTTACCTGAAGAACTCCAGGAGTGAAGCCATTACACGCTG  
 GACCATATCCTACCATGTATACCTTTAGGCCCTGGACCATCCGCCAGTATGCTGGTTTTAGTACTGTGGA  
 AGAAAGCAATAAGTTCTATAAGGACAACATTAAGGCTGGTCAGCAGGGATTATCAGTTGCCTTTGATCTG  
 GCGACACATCGTGGCTATGATTCAGACAACCCCTCGAGTTCGTGGTATGTTGGAATGGCTGGAGTTGCTA  
 TTGACACTGTGGAAGATACAAAATTCTTTTTGATGGAATTCCTTTAGAAAAAATGTCAGTTCCATGAC  
 TATGAATGGAGCAGTTATTCCAGTTCCTGCAAATTTTATAGTAACTGGAGAAGAACAAGGTGACCTAAA  
 GAGAACTTACTGGTACCATCCAAAATGATATACTAAAGGAATTTATGGTTCGAAATACATACATTTTTTC  
 CTCCAGAACCATCCATGAAAATTATTGCTGACATATTTGAATATACAGCAAAGCAGCATGCCAAAATTTAA  
 TTCAATTTCAATTAGTGGATACCATATGCGAAGCAGGGGCTGATGCCATTCTGGAGCTGGCCTATACT  
 TTAGCAGATGGATTGGAGTACTTAGAACTGGACTCCAGGCTGGCCTGACAAATTGATGAATTTGCACCA  
 GGTTGTCTTTCTCTGGGGAATTGGAATGAATTTCTATATGGAATAGCAAAGATGAGAGCTGGTAGAAG  
 ACTCTGGGCTCACTTAATAGAGAAAATGTTTCAGCCTAAAACTCAAAATCTCTTCTTCTAAGAGCACAC  
 TGTCAGACATCTGGATGGTCACTTACTGAGCAGGATCCCTACAATAATATTGTCGACTGCAATAGAAG  
 CAATGGCAGCAGTATTTGGAGGGACTCAGTCTTGCACACAAAATCTTTTTGATGAAGCTTTGGGTTTGC  
 AACTGTGAAAAGTGTCTGAATTGCCAGGAACACACAAAATCATCATTCAAGAAGAATCTGGGATCCCAAA  
 GTGGCTGATCCTTGGGAGGTTCTTACATGATGGAATGTCTCACAAATGATGTTTATGATGCTGCTTTAA  
 AGCTCATTAATGAAATTGAAGAAATGGGTGGAATGGCCAAAGCTGTAGCTGAGGGAATACCTAAACTTCG  
 AATTGAAGAATGTGCTGCCCGAAGACAAGCTAGAATAGATTCTGGTTCTGAAGTAATTGTTGGAGTAAAT  
 AAGTACCAGTTGGAAAAAGAAGACTGTAGAAGTTCTGGCAATTGATAACTTCAGTGCGAAACAGGC  
 AGATTGAAAACTTAAGAAGATCAAATCCAGCAGGGATCAAGCTTTGGCTGAACGTTGCTTGTCTGCACT  
 AACCGAATGTGCTGCTAGCGGAGATGAAAATATCCTGGCTTTCAGTGGATGCATCTCGGCAAGATGT  
 ACAGTGGGAGAAATCACAGATGCCCTGAAAAGGTATTTGGTGAACATAAAGCGAATGATCGAATGGTGA  
 GTGGAGCATATCGCCAGGAATTTGGAGAAAGTAAAGAGATAACATCTGCTATCAAGAGGGTTCATAAATT  
 CATGGAACGTGAAGTCCGAGACCTCGTCTTCTGTAGCAAAAATGGGACAAGATGGCCATGACAGAGGA  
 GCAAAAGTTATTGCTACAGGATTTGCTGATCTTGGTTTTGATGTGGACATAGGCCCTTTTTCCAGACTC  
 CTCGTGAAGTGGCCAGCAGGCTGTGGATGCGGATGTGCATGCTGTGGCGTAAGCACCCCTCGTCTGG  
 TCATAAAACCCTAGTTCCTGAACTCATCAAAGAACTTAACTCCCTGGACGGCCAGATATTCTTGTGATG  
 TGTGGAGGGGTGATACCACCTCAGGATTATGAATTTCTGTTTGAAGTTGGTGTTCCAATGATTTGGTC  
 CTGGGACTCGAATCCAAAGGCTGCCGTTCAAGTGTGATGATATTGAGAAGTGTGGAAAAGAAGCA  
 GCAATCTGTA

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC201972 protein sequence  
 Red=Cloning site Green=Tags(s)

MLRAKNQLFLLSPHYLRQVKESSGSRLLIQQRLLHQQQPLHPEWAALAKKQLKGNPEDLIWHTPEGISIK  
 PLYSKRDTMDLPEELPGVKPFRGPYPTMYTFRPWTIRQYAGFSTVEESNKFYKDNKAGQQGLSVAFDL  
 ATHRGYSDNPRVRGDMAGVAIDTVEDTKILFDGIPLKMSVSMTMNGAVIPVLANFIVTGEEQGVPK  
 EKLGTGTIQNDILKEFMVRNTYIFPPEPSMKIIADIFEYTAKHMPKFNSISISGYHMQEAGADAILELAYT  
 LADGLEYSRTGLQAGLTIDEFAPRLSFFWIGMNFYMEIAKMRAGRRLWAHLIEKMFQPKNSKSLLLRAH  
 CQTSWLSLTEQDPYNNIVRTAIEAMAAVFGGTQSLHTNSFDEALGLPTVKSARIARNTQIIIQEESGIPK  
 VADPWGGSYMECLTNDVYDAALKLINEIEEMGGMAKAVAEGIPKLRIEECAARRQARIDSGSEIVGVN  
 KYLEKEDTVEVLAIDNTSVNRNRIEKLKIKSSRDQALAECLAALTECAASGDGNILALAVDASRARC  
 TVGEITDALKVFGHEKANDRMVSGAYRQEFGESKEITSAIKRVHKFMEREGRRPRLLVAKMQDGHDRG  
 AKVIATGFADLGFVDIGPLFQTPREVAQQAVDADVHAVGVSTLAAGHKTLPVELIKELNSLGRPDILVM  
 CCGVIPPQDYEFLEFVGVSNVFGPGTRIPKAAVQVLDIEKCLEKKQQSV

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6139\\_e10.zip](https://cdn.origene.com/chromatograms/mk6139_e10.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



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

**ACCN:** NM\_000255

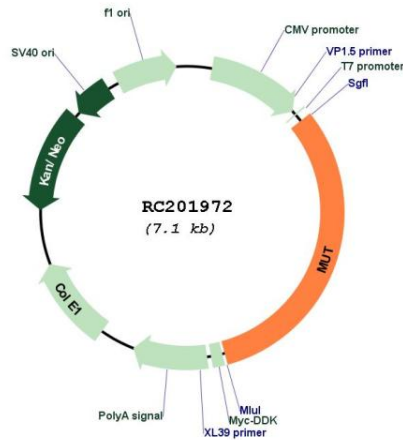
**ORF Size:** 2250 bp

**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](#)

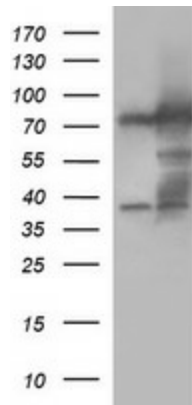
**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_000255.4</a>
<b>RefSeq Size:</b>	3886 bp
<b>RefSeq ORF:</b>	2253 bp
<b>Locus ID:</b>	4594
<b>UniProt ID:</b>	<a href="#">P22033</a>
<b>Cytogenetics:</b>	6p12.3
<b>Domains:</b>	MM_CoA_mutase, B12-binding
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Metabolic pathways, Propanoate metabolism, Valine, leucine and isoleucine degradation
<b>MW:</b>	83.2 kDa
<b>Gene Summary:</b>	This gene encodes the mitochondrial enzyme methylmalonyl Coenzyme A mutase. In humans, the product of this gene is a vitamin B12-dependent enzyme which catalyzes the isomerization of methylmalonyl-CoA to succinyl-CoA, while in other species this enzyme may have different functions. Mutations in this gene may lead to various types of methylmalonic aciduria. [provided by RefSeq, Jul 2008]

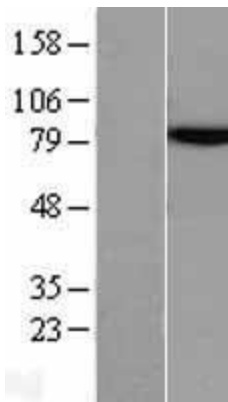
Product images:



Circular map for RC201972



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY MUT (Cat# RC201972, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MUT (Cat# [TA506873]). Positive lysates [LY400099] (100ug) and [LC400099] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400099]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC201972 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).