

## Product datasheet for **RC231178**

### MDH1 (NM\_001199111) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	MDH1 (NM_001199111) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MDH1
Synonyms:	DEE88; EIEE88; HEL-S-32; KAR; MDH-s; MDHA; MGC:1375; MOR2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC231178 representing NM_001199111 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGCGACGCTGCAGCTATTTTCAAAGGACGTTACGGTGTGATAAGGACGATAAGTCTGAACCAATCA  
 GAGTCCTTGTGACTGGAGCAGCTGGTCAAATTGCATATTCAGTGTACAGTATTGAAATGGATCTGT  
 CTTTGGTAAAGATCAGCCTATAATTCTTGTGCTGTTGGATATCACCCCATGATGGGTGCTCTGGACGGT  
 GTCCTAATGGAAGTCAAGACTGTGCCCTCCCTCCTGAAAGATGTCATCGCAACAGATAAAGAAGACG  
 TTGCCTTCAAAGACCTGGATGTGGCCATTCTTGTGGGCTCCATGCCAAGAAGGAAGGCATGGAGAGAAA  
 AGATTTACTGAAAGCAAATGTGAAAATCTTCAAATCCCAGGGTGCAGCCTTAGATAAATACGCCAAGAAG  
 TCAGTTAAGGTTATTGTTGTGGTAATCCAGCCAATACCAACTGCCTGACTGCTTCCAAGTCAGTCCAT  
 CCATCCCCAAGGAGAAGTTCAGTTGCTTGACTCGTTTGGATCACAACCGAGCTAAAGCTCAAATTGCTCT  
 TAACTTGGTGTGACTGCTAATGATGTAAGAATGTCATTATCTGGGAAACCATTCCTCGACTCAGTAT  
 CCAGATGTCAACCATGCCAAGGTGAAATTGCAAGGAAAGGAAGTTGGTGTATGAAGCTCTGAAAGATG  
 ACAGCTGGCTCAAGGGAGAATTTGTCACGACTGTGCAGCAGCGTGGCGCTGCTGTCATCAAGGCTCGAAA  
 ACTATCCAGTGCCATGTCTGCTGCAAAAGCCATCTGTGACCACGTCAGGGACATCTGGTTTGAACCCCA  
 GAGGGAGAGTTTGTGTCATGGGTGTTATCTCTGATGGCAACTCCTATGGTGTTCCTGATGATCTGCTCT  
 ACTCATTCCCTGTTGTAATCAAGAATAAGACCTGGAAGTTTGTGAAGGTCTCCCTATTAATGATTCTC  
 ACGTGAGAAGATGGATCTTACTGCAAAGGAAGTACAGAGAAGAAAAGAAAGTGCTTTTGAATTTCTTTCC  
 TCTGCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA


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**Protein Sequence:** >RC231178 representing NM\_001199111  
 Red=Cloning site Green=Tags(s)

MRRCSYFPKDVTVFDKDDKSEPIRVLVTGAAGQIAYSLLYSIGNGSVFGKDQPIILVLLDITPMMGVLDG  
 VLMELQDCALPLLKDVIATDKEDVAFKDLDAIILVGSMPPREGMERKDLLKANVKIFKSQGAALDKYAKK  
 SVKVIVVGNPANTNCLTASKSAPSIPKENFSCLTRLDHNRKAQIALKLGVTANDVKNVLIWGNHSSSTQY  
 PDVNHAKVKLQGKEVGVYEALKDDSWLKGEFVTTVQQRGAIVIKARKLSSAMSAKAICDHVRDIWFGTP  
 EGEFVSMGVISDGNISYGVPPDLLYSFPVVIKNKTWKFVEGLPINDFSREKMDLTAKELTEEKSAFEFLS  
 SA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk8054\\_c11.zip](https://cdn.origene.com/chromatograms/mk8054_c11.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_001199111

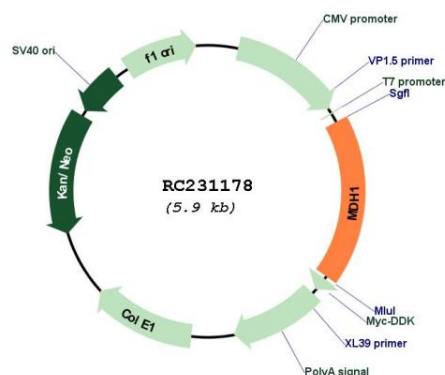
**ORF Size:** 1056 bp

**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](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

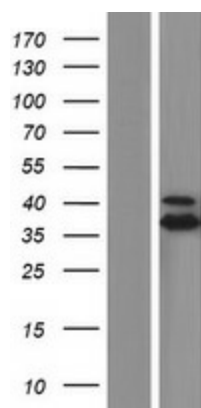
The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

<b>OTI Annotation:</b>	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>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<u>NM_001199111.1, NP_001186040.1</u>
<b>RefSeq ORF:</b>	1059 bp
<b>Locus ID:</b>	4190
<b>UniProt ID:</b>	<u>P40925</u>
<b>Cytogenetics:</b>	2p15
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Citrate cycle (TCA cycle), Glyoxylate and dicarboxylate metabolism, Metabolic pathways, Pyruvate metabolism
<b>MW:</b>	39.1 kDa
<b>Gene Summary:</b>	<p>This gene encodes an enzyme that catalyzes the NAD/NADH-dependent, reversible oxidation of malate to oxaloacetate in many metabolic pathways, including the citric acid cycle. Two main isozymes are known to exist in eukaryotic cells: one is found in the mitochondrial matrix and the other in the cytoplasm. This gene encodes the cytosolic isozyme, which plays a key role in the malate-aspartate shuttle that allows malate to pass through the mitochondrial membrane to be transformed into oxaloacetate for further cellular processes. Alternatively spliced transcript variants have been found for this gene. A recent study showed that a C-terminally extended isoform is produced by use of an alternative in-frame translation termination codon via a stop codon readthrough mechanism, and that this isoform is localized in the peroxisomes. Pseudogenes have been identified on chromosomes X and 6. [provided by RefSeq, Feb 2016]</p>

## Product images:



Circular map for RC231178



Western blot validation of overexpression lysate (Cat# [LY434177]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC231178 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).