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Product datasheet for RC200298

MDH1 (NM_005917) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MDH1 (NM_005917) 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:

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>RC200298 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGTCTGAACCAATCAGAGTCCTTGTGACTGGAGCAGCTGGTCAAATTGCATATTCACTGCTGTACAGTA
TTGGAAATGGATCTGTCTTTGGTAAAGATCAGCCTATAATTCTTGTGCTGTTGGATATCACCCCCATGAT
GGGTGTCCTGGACGGTGTCCTAATGGAACTGCAAGACTGTGCCCTTCCCCTCCTGAAAGATGTCATCGCA
ACAGATAAAGAAGACGTTGCCTTCAAAGACCTGGATGTGGCCATTCTTGTGGGCTCCATGCCAAGAAGGG
AAGGCATGGAGAGAAAAGATTTACTGAAAGCAAATGTGAAAATCTTCAAATCCCAGGGTGCAGCCTTAGA
TAAATACGCCAAGAAGTCAGTTAAGGTTATTGTTGTGGGTAATCCAGCCAATACCAACTGCCTGACTGCT
TCCAAGTCAGCTCCATCCATCCCCAAGGAGAACTTCAGTTGCTTGACTCGTTTGGATCACAACCGAGCTA
AAGCTCAAATTGCTCTTAAACTTGGTGTGACTGCTAATGATGTAAAGAATGTCATTATCTGGGGAAACCA
TTCCTCGACTCAGTATCCAGATGTCAACCATGCCAAGGTGAAATTGCAAGGAAAGGAAGTTGGTGTTTAT
GAAGCTCTGAAAGATGACAGCTGGCTCAAGGGAGAATTTGTCACGACTGTGCAGCAGCGTGGCGCTGCTG
TCATCAAGGCTCGAAAACTATCCAGTGCCATGTCTGCTGCAAAAGCCATCTGTGACCACGTCAGGGACAT
CTGGTTTGGAACCCCAGAGGGAGAGTTTGTGTCCATGGGTGTTATCTCTGATGGCAACTCCTATGGTGTT
CCTGATGATCTGCTCTACTCATTCCCTGTTGTAATCAAGAATAAGACCTGGAAGTTTGTTGAAGGTCTCC
CTATTAATGATTTCTCACGTGAGAAGATGGATCTTACTGCAAAGGAACTGACAGAAGAAAAAGAAAGTGC
TTTTGAATTTCTTTCCTCTGCC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA
```

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Protein Sequence:

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>RC200298 protein sequence
Red=Cloning site Green=Tags(s)

MSEPIRVLVTGAAGQIAYSLLYSIGNGSVFGKDQPIILVLLDITPMMGVLDGVLMELQDCALPLLKDVIA
TDKEDVAFKDLDVAILVGSMPRREGMERKDLLKANVKIFKSQGAALDKYAKKSVKVIVVGNPANTNCLTA
SKSAPSIPKENFSCLTRLDHNRAKAQIALKLGVTANDVKNVIIWGNHSSTQYPDVNHAKVKLQGKEVGVY
EALKDDSWLKGEFVTTVQQRGAAVIKARKLSSAMSAAKAICDHVRDIWFGTPEGEFVSMGVISDGNSYGV
PDDLLYSFPVVIKNKTWKFVEGLPINDFSREKMDLTAKELTEEKESAFEFLSSA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV
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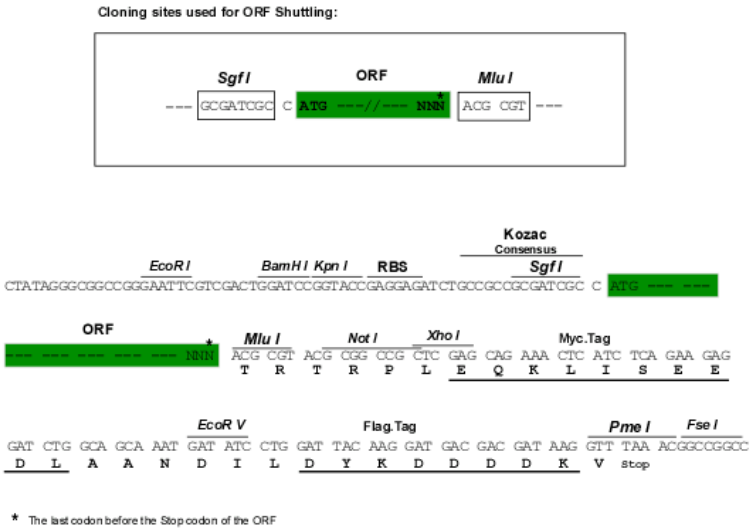
Chromatograms: https://cdn.origene.com/chromatograms/mk6052_e08.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_005917

ORF Size: 1002 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).

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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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_005917.4
RefSeq Size:	1665 bp
RefSeq ORF:	1005 bp
Locus ID:	4190
UniProt ID:	P40925
Cytogenetics:	2p15
Domains:	ldh
Protein Families:	Druggable Genome
Protein Pathways:	Citrate cycle (TCA cycle), Glyoxylate and dicarboxylate metabolism, Metabolic pathways, Pyruvate metabolism
MW:	36.4 kDa
Gene Summary:	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]

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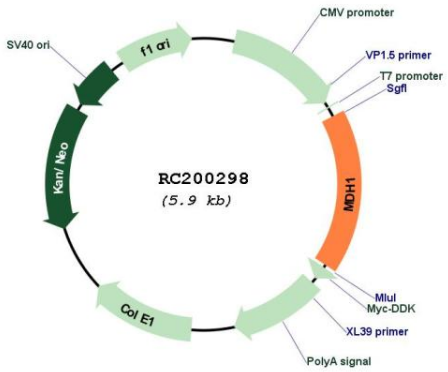
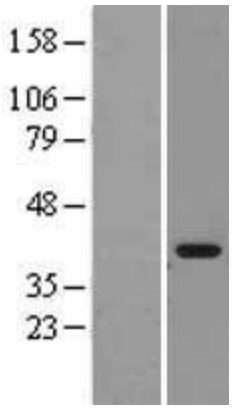
Product images:



Circular map for RC200298



Western blot validation of overexpression lysate (Cat# [LY401788]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC200298 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).

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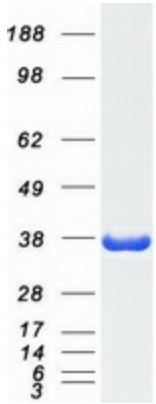

Coomassie blue staining of purified MDH1 protein (Cat# [TP300298]). The protein was produced from HEK293T cells transfected with MDH1 cDNA clone (Cat# RC200298) using MegaTran 2.0 (Cat# [TT210002]).

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