

Product datasheet for SC116447

MDH1 (NM_005917) Human Untagged Clone

Product data:

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|----------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | MDH1 (NM_005917) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | MDH1 |
| Synonyms: | DEE88; EIEE88; HEL-S-32; KAR; MDH-s; MDHA; MGC:1375; MOR2 |
| Vector: | <u>pCMV6-XL5</u> |
| E. coli Selection: | Ampicillin (100 ug/mL) |
| Cell Selection: | None |
| Fully Sequenced ORF: | >OriGene ORF within SC116447 sequence for NM_005917 edited (data generated by NextGen Sequencing) |

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ATGTCTGAACCAATCAGAGTCCTTGTGACTGGAGCAGCTGGTCAAATTGCATATTCAGT  
CTGTACAGTATTGGAAATGGATCTGTCTTTGGTAAAGATCAGCCTATAATTCTTGTGCTG  
TTGGATATCACCCCATGATGGGTGTCCTGGACGGTGCCTAATGGAAGTCAAGACTGT  
GCCCTTCCCTCCTGAAAGATGTCATCGCAACAGATAAAGAAGACGTTGCCTTCAAAGAC  
CTGGATGTGGCCATTCTTGTGGGCTCCATGCCAAGAAGGGAAGGCATGGAGAGAAAAGAT  
TACTGAAAGCAAATGTGAAAATCTTCAAATCCCAGGGTGCAGCCTTAGATAAATACGCC  
AAGAAGTCAGTTAAGTTATTGTTGTGGTAATCCAGCCAATACCAACTGCCTGACTGCT  
TCCAAGTCAGCTCCATCCATCCCAAGGAGAAGTTCAGTTGCTTGACTCGTTGGATCAC  
AACCGAGCTAAAGCTCAAATTGCTCTTAAACTTGGTGTGACTGCTAATGATGTAAAGAAT  
GTCATTATCTGGGGAAACCATTCTCGACTCAGTATCCAGATGTCAACCATGCCAAGGTG  
AAATTGCAAGGAAAGGAAGTTGGTGTATGAAGCTCTGAAAGATGACAGCTGGCTCAAG  
GGAGAATTTGTCACGACTGTGCAGCAGCGTGGCGCTGCTGTCATCAAGGCTCGAAAATA  
TCCAGTGCCATGTCTGCTGCAAAAGCCATCTGTGACCACGTCAGGGACATCTGGTTTGA  
ACCCAGAGGGGAGAGTTTGTGTCATGGGTGTTATCTCTGATGGCAACTCCTATGGTGT  
CCTGATGATCTGCTCTACTCATTCCCTGTTGTAATCAAGAATAAGACCTGGAAGTTGTT  
GAAGGTCTCCCTATTAATGATTTCTCACGTGAGAAGATGGATCTTACTGCAAAGGAACTG  
ACAGAAGAAAAAGAAAGTCTTTTGAATTTCTTCTCCTCTGCCTGA
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Clone variation with respect to NM_005917.3



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| 5' Read Nucleotide Sequence: | >OriGene 5' read for NM_005917 unedited TACGACTCCTATAGGCGGCCCGCAATTCGCACGAGGCGGTAGAGGTGACCTGACTCTCT GAGGCTCATTTTTGCAGTTGTTGAAATTGCCCCGAGTTTTCAATCATGTCTGAACCAAT CAGAGTCTTGTGACTGGAGCAGCTGGTCAAATTCATATTCACTGCTGTACAGTATTGG AAATGGATCTGTCTTTGGTAAAGATCAGCCTATAATTCTGTGCTGTTGGATATCACCCC CATGATGGGTGCTCTGGACGGTGTCTAATGGAAGTCAAGACTGTGCCCTTCCCCTCCT GAAAGATGTCATCGCAACAGATAAAGAAGACGTTGCCTTCAAAGACCTGGATGTGGCCAT TCTTGTGGGCTCCATGCCAAGAAGGAAGGCATGGAGAGAAAAGATTTACTGAAAGCAAA TGTGAAAATCTTCAAATCCCAGGGTGCAGCCTTAGATAAAATACGCCAAGAAGTCAGTTAA GGTTATTGTTGTGGGTAATCCAGCCAATACCAACTGCCTGACTGCTTCCAAGTCAGCTCC ATCCATCCCCAAGGAGAAGTTCAGTTGCTTACTGCTGTTGGATCACAACCGAGCTAAAGC TCANATTGCTCTTAAACTGGTGTGACTGCTAATGATGTAAGAATGTCATTATCTGGNG AAACCATTCTCGACTCAGTATCCAGATGTCAACCATGCCAAGGGTAAAATTGCAAGGAA AGGAAGNNTGGTGTATGAAAGCTCTGAAAGATGACAGCTGGCTCAAGGGAGATTTGTC ACGACTGTGCAGCAGCGTGGCGTCTGTGTCATCAAGGCTCGAAACTATCCATGCCATGTC TGCTGCAAAGCCATCTGTGACACGTCAGGACATCTGGTNGGGACCCAAGGAAGAGTTT GGTCATGGGTGTATCTCTGAGGCACTCCTAGNGTCTGAGAAGTGCCTACTCATCTGT GTATCAGATAGACCTGGAGTTGGTG |
| 3' Read Nucleotide Sequence: | >OriGene 3' read for NM_005917 unedited GCAACTTTCAGGGCCAGGAATAGCACTGGGGAGGGGTCACAGGGATGCCACCCGGGATC TGTTTCAGGAAACAGCTATGACCGCGGCCCAATCTAGAGTCGAGTTTTTTTTTTTTTTTT TTCACCTTTCATTTGAATATATATTTATTTAGAATGCACACTAACAGCATGACGATAAACT GTCATTCACAAACCTGTACCAAGAAGCACGTAATCTTTAAAATGTGTTGTTTTTCAAG TAATTTAAGTATAGCATTATTATTTTGGTACTTGAGTCAAAGACGACATTTAGATTCT TCAGCTTTGAAGCATTTAGTAACATCATTGTCTAGTCAGGCAGAGGAAAGAAATTCAAAA GCACTTTCTTTTTCTTCTGTCAGTTCCTTTGCAGTAAGATCCATCTTCTCACGTGAGAAA TCATTAATAGGGAGACCTTCAACAAACTCCAGGTCTTATTCTTGATTACAACAGGGAAT GAGTAGAGCAGATCATCAGGAACACCATAGGAGTTGCCATCAGAGATAACACCCATGGAC ACAAACTCTCCCTCTGGGGTTCCAAACCAGATGTCCCTGACGTGGTCACAGATGGCTTTT GCAGCAGACATGGCACTGGATAGTTTTTCGAGCCTTGATGACAGCAGCGCCACGCTGCTGC ACAGTCGTGACAAATTCTCCCTTGAGCCAGCTGTATCTTTCAGAGCTTCATAACACCAA CTTCTTTCTTGCATTTTCACCTTGGCATGGTTGACATCTGGATACTGAGTCGAGAAAT GGTTTTCCCAGATATGACATTCTTTACATCATAACAGNCACACAAGTTTAGAGCTTTTGA GCTTACCTCGGTTGGGATCCAACGAGTCAGCAACTGAGTTCTCCTTGGGGATGAAGGAGC |
| Restriction Sites: | NotI-NotI |
| ACCN: | NM_005917 |
| Insert Size: | 1370 bp |
| OTI Disclaimer: | Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP). |
| RefSeq: | NM_005917.2 , NP_005908.1 |
| RefSeq Size: | 1268 bp |
| RefSeq ORF: | 1005 bp |
| Locus ID: | 4190 |

UniProt ID: [P40925](#), [V9HWF2](#)

Domains: ldh

Protein Families: Druggable Genome

Protein Pathways: Citrate cycle (TCA cycle), Glyoxylate and dicarboxylate metabolism, Metabolic pathways, Pyruvate metabolism

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]

Transcript Variant: This variant (1) represents the predominant transcript and encodes two isoforms, which result from the use of alternative in-frame translation termination codons. The shorter isoform (MDH1) results from translation termination at the upstream UGA stop codon, while the longer isoform (MDH1x) results from UGA stop codon readthrough to the downstream UGA termination codon. This RefSeq represents the shorter isoform (MDH1), which is localized in the cytosol.