

Product datasheet for **RG231178**

MDH1 (NM_001199111) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MDH1 (NM_001199111) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	MDH1
Synonyms:	DEE88; EIEE88; HEL-S-32; KAR; MDH-s; MDHA; MGC:1375; MOR2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG231178 representing NM_001199111 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCGACGCTGCAGCTATTTTCAAAGGACGTTACGGTGTGGATAAGGACGATAAGTCTGAACCAATCA
GAGTCCTGTGACTGGAGCAGCTGGTCAAATTGCATATTCAGTGTACAGTATTGAAATGGATCTGT
CTTTGGTAAAGATCAGCCTATAATTCTGTGCTGTTGGATATCACCCCATGATGGGTGCTGGACGGT
GTCCTAATGGAAGTCAAGACTGTGCCCTCCCCTCCTGAAAGATGTCATCGCAACAGATAAAGAAGACG
TTGCCCTCAAAGACCTGGATGTGGCCATCTTGTGGGCTCCATGCCAAGAAGGAAGGCATGGAGAGAAA
AGATTTACTGAAAGCAAATGTGAAAATCTCAAATCCCAGGGTGCAGCCTTAGATAAATACGCCAAGAAG
TCAGTTAAGGTTATTGTTGTGGTAATCCAGCCAATACCAACTGCCTGACTGCTTCCAAGTCAGCTCCAT
CCATCCCCAAGGAGAAGTTCAGTTGCTTACTGCTGTTGGATCACAAACCGACTAAAGCTCAAATTGCTCT
TAACTTGGTGTGACTGCTAATGATGTAAGAATGTCAATTATCTGGGAAACCATTCCTCGACTCAGTAT
CCAGATGTCAACCATGCCAAGGTGAAATGCAAGGAAAGGAAGTTGGTGTATGAAGCTCTGAAAGATG
ACAGCTGGCTCAAGGGAGAATTTGTCACGACTGTGACGACGCTGGCGCTGCTGTCATCAAGGCTCGAAA
ACTATCCAGTGCCATGTCTGCTGCAAAAGCCATCTGTGACCACGTCAGGGACATCTGGTTTGAACCCCA
GAGGGAGAGTTTGTGCCATGGGTGTTATCTCTGATGGCAACTCCTATGGTGTCTGATGATCTGCTCT
ACTCATTCCCTGTTGTAATCAAGAATAAGACCTGGAAGTTTGTGAAGGTCTCCCTATTAATGATTCTC
ACGTGAGAAGATGGATCTTACTGCAAAAGGAAGTACAGAAAGAAAAGAAAGTGTCTTTGAATTTCTTTCC
TCTGCC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >RG231178 representing NM_001199111
 Red=Cloning site Green=Tags(s)

MRRCSYFPKDVTVFDKDDKSEPIRVLVTGAAGQIAYSLLYSIGNGSVFGKDQPIILVLLDITPMMGVLDG
 VLMELQDCALPLLKDVIAATDKEDVAFKDLDAIILVGSMPRREGMERKDLLKANVKIFKSQGAALDKYAKK
 SVKVIVVGNPANTNCLTASKSAPSIPKENFSCLTRLDHNRKAQIALKLGVTANDVKNVIWGNHSSTQY
 PDVNHAKVKLQGKEVGVYEALKDDSWLKGEFVTTVQQRGA AVIKARKLSSAMSAKAICDHVRDIWFGTP
 EGEFVSMGVISDGNISYGVPPDLLYSFPVVIKNTWKVFEGLPINDFSREKMDLTAKELTEEKESAFEFLLS
 SA

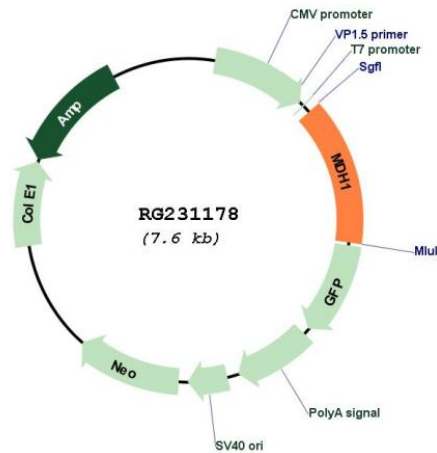
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001199111

ORF Size:	1056 bp
OTI Disclaimer:	<p>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 or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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</p>
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:	<ol style="list-style-type: none">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_001199111.1 , NP_001186040.1
RefSeq Size:	1461 bp
RefSeq ORF:	1059 bp
Locus ID:	4190
UniProt ID:	P40925
Cytogenetics:	2p15
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]