

Product datasheet for **RR210984**

Mdh1 (NM_033235) Rat Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Mdh1 (NM_033235) Rat Tagged ORF Clone
Tag: Myc-DDK
Symbol: Mdh1
Synonyms: Mdh1; MDL1; Mor2
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >RR210984 representing NM_033235
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGTCTGAGCCAATCAGAGTCTCGTGACAGGAGCAGCCGGTCAGATTGCATATTCGCTGCTGTACAGCA
TTGGAAATGGATCTGCTTTGGGAAAGACCAGCCCATCATTCTTGCTGTTGGACATCACCCCATGAT
GGGTGTTCTGGACGGTGTCTGATGGAGCTGCAAGACTGTGCCCTTCCCCTTCTGCAGGATGTCATTGCA
ACAGACAAAGAAGAGGTTGCCTTCAAAGACCTGGACGTGGCTGTCTTGTGGGCTCCATGCCAAGAAGGG
AGGGCATGGAGAGGAAGGACCTACTGAAAGCCAACGTGAAGATCTTCAAATCCCAGGGCGCAGCCTTGGGA
GAAGTACGCCAAGAAATCAGTTAAGGTCATTGTTGTGGGGAACCCAGCCAATACAAACTGCCTGACGGCC
TCCAAGTCAGCACCATCGATCCCAAGGAGAAGTTCAGTTGCCTGACTCGATTGGACCACAACCGAGCAA
AATCTCAAATTGCTCTTAAACTCGGTGTAACCGCTGATGATGTAAAAATGTCATTATCTGGGAAATCA
TTCATCAACCCAGTATCCAGATGTCATCATGCCAAGGTGAAATTGCAAGGAAAAGAAGTTGGTGTGTAT
GAAGCCCTCAAAGACGACAGCTGGCTCAAGGGAGAGTTCATCACGACTGTGCAGCAGCGTGGTGTCTGCTG
TCATCAAGGCTCGGAAGCTGTCCAGTGCCATGTCTGCTGCGAAGGCCATCTCGGACCACATCAGAGACAT
CTGGTTTGAACCCCGAGGGCGAGTTCGTGTCGATGGGCGTAATCTCTGATGGCAACTCCTATGGTGTCT
CCTGATGACCTGCTCTACTCGTTCCTGTCTGATCAAGAATAAGACCTGGAAGTTTGTGAAGGCTCC
CCATTAACGACTTCTCCCGTGAGAAGATGGACCTGACAGCAAAGGAGCTGACCGAGGAAAAGGAAACGGC
TTTTGAGTTTCTCTCCTCCGCA

ACGGTACGGGCGGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RR210984 representing NM_033235
Red=Cloning site Green=Tags(s)

MSEPIRVLTGAAGQIAYSLLYSIGNSVFGKDQPIILVLLDITPMMGVLDGVLMEQLQDCALPLLQDVIA
 TDKEEVAFKDLDAVLVGSMPRREGMERKDLLKANVKIFKSQGALEKYAKKSVKVIIVGNPANTNCLTA
 SKSAPSIPKENFSLTRLDHNRAKSQIALKLGVTADDVKNVVIWGNHSSTQYPDVNHAKVKLQGKEVGVY
 EALKDDSWLKGEFITTVQQRGAAVIKARKLSSAMSAAKAISDHIRDIWFGTPEGEFVSMGVISDGNYSYG
 PDDLLYSFPVVIKNKTWKFVEGLPINDFSREKMDLTAKELTEEKETAFFELSSA

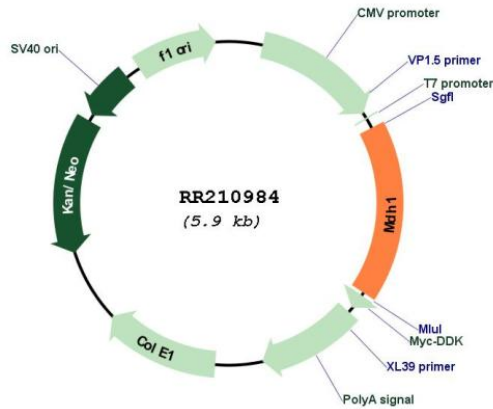
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_033235

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).
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_033235.2 , NP_150238.1
RefSeq Size:	1266 bp
RefSeq ORF:	1005 bp
Locus ID:	24551
UniProt ID:	O88989
Cytogenetics:	14q22
MW:	36.5 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. 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. [provided by RefSeq, Feb 2016]