OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for AR09603PU-N

MDH1 (1-334, His-tag) Human Protein

Product data:

Product Type:	Recombinant Proteins
Description:	MDH1 (1-334, His-tag) human recombinant protein, 0.1 mg
Species:	Human
Expression Host:	E. coli
Expression cDNA Clone or AA Sequence:	MSEPIRVLVT GAAGQIAYSL LYSIGNGSVF GKDQPIILVL LDITPMMGVL DGVLMELQDC ALPLLKDVIATDKEDVAFKD LDVAILVGSM PRREGMERKD LLKANVKIFK SQGAALDKYA KKSVKVIVVG NPANTNCLTA SKSAPSIPKE NFSCLTRLDH NRAKAQIALK LGVTANDVKN VIIWGNHSST QYPDVNHAKV KLQGKEVGVY EALKDDSWLK GEFVTTVQQR GAAVIKARKL SSAMSAAKAI CDHVRDIWFG TPEGEFVSMG VISDGNSYGV PDDLLYSFPV VIKNKTWKFV EGLPINDFSR EKMDLTAKEL TEEKESAFEF LSSALEHHHH HH
Tag:	His-tag
Predicted MW:	37.4 kDa
Concentration:	lot specific
Purity:	>95% by SDS-PAGE
Buffer:	Presentation State: Purified State: Liquid purified protein Buffer System: 20 mM Tris-HCl Buffer (pH 8.0) containing 10% Glycerol
Bioactivity:	Biological: Specific activity is > 8 units/mg, and is defined as the amount of enzyme that cleaves 1 umole of oxalacetate and beta-NADH to L-malate and beta-NAD per minute at pH 7.5 at 25°C (see "Protocols").
Endotoxin:	< 1 EU per 1ug of protein (determined by LAL method)
Preparation:	Liquid purified protein

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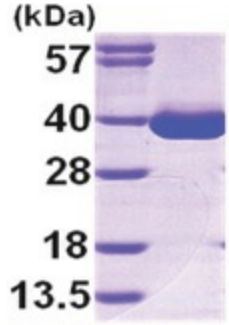
Applications:	Protocol: **Activity Assay** 1. Prepare assay buffer into a suitable container and pre-chill on ice before use: The final concentrations are 100 mM Potassium phosphate, 0.13 mM beta-nicotinamide adenine dinucleotide, reduced form, 0.25 mM oxalacetic acid. 2. Add recombinant MDH protein with various concentrations (0.1ug, 0.5ug, 1ug) in assay buffer. 3. Mix by inversion, equilibrate to 1°C, and monitor at A340nm until the value is constant using a spectrophotometer. 4. Record the increase at A340nm for approximately 2 minutes.
Protein Description:	Recombinant human MDH1 protein, fused to His-tag at C-terminus, was expressed in E.coli and purified by using conventional chromatography.
Storage:	Store undiluted at 2-8°C for up to two weeks or (in aliquots) at -20°C or -70°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
RefSeq:	NP_001186040
Locus ID:	4190
UniProt ID:	P40925
Cytogenetics:	2p15
Synonyms:	MDHA, Malate dehydrogenase, cytoplasmic
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]
Protein Families:	Protocol: **Activity Assay** 1. Prepare assay buffer into a suitable container and pre-chill on ice before use: The final concentrations are 100 mM Potassium phosphate, 0.13 mM beta-nicotinamide adenine dinucleotide, reduced form, 0.25 mM oxalacetic acid. 2. Add recombinant MDH protein with various concentrations (0.1ug, 0.5ug, 1ug) in assay buffer. 3. Mix by inversion, equilibrate to 1°C, and monitor at A340nm until the value is constant using a spectrophotometer. 4. Record the increase at A340nm for approximately 2 minutes.

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

Product images:



15% SDS-PAGE (3ug)