

Recombinant Human ME2 protein

Cat. No. ME2-1274H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human ME2 protein was expressed in Escherichia coli.
Species	Human
Source	E.coli
ProteinLength	573
Description	NAD-dependent malic enzyme (ME2), mitochondrial is a protein that in humans is encoded by the ME2 gene. This gene encodes a mitochondrial NAD-dependent malic enzyme, a homotetrameric protein, which catalyzes the oxidative decarboxylation of malate to pyruvate. Three different isoforms of ME are known to be in mammalian tissues: a strictly cytosolic NADP+-dependent enzyme, an NADP+-dependent mitochondrial isoform, and a mitochondrial isoenzyme that is able to use both NAD+ and NADP+ but is more effective with NAD+. The mammalian isoforms size is about 62-64 kDa. A native size of 240,000 Da proposes a tetrameric structure for the active enzyme.
Form	Lyophilized from a 0.2µm filtered concentrated solution in PBS, pH 7.4.
Bio-activity	Malic Enzyme activity was assayed spectrophotometrically at 340nm as described in Mandela and Sauer (1975). The standard reaction mixture contained 50 mM Tris-HCl, 3 mM MnCl ₂ , 5 mM malate, 0.12 mM NADP+, 2.5 mM fumarate. Assay was performed in a Beckman spectrophotometer. The Km value is 1.5 ± 0.6 mM.

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Molecular Mass	Approximately 64.4 kDa, a single non-glycosylated polypeptide chain containing 573 amino acids with 6 × His at C-terminus.
AA Sequence	MLHIKEKGKPLMLNPRTNKGMAFTLQERQMLGLQGLLPPKIETQDIQALRFHRNLKK MTSPLEKYIYIMGIQERNEKLFYRILQDDIESLMPIVYTPTVGLACSQYGHIFRRPKGL FISISDRGHVRSIVDNWPENHVKAVVTDGERILGLGDLGVYGMGIPVGKLCCLYTAC AGIRPDRCLPVCIDVGTDNIALLKDPFYMGLYQKRDRTQQYDDLIDEFMKAITDRYGR NTLIQFEDFGNHNAFRFLRKYREKYCTFNDDIQGTAVALAGLLAAQKVISKPISEHKI LFLGAGEAALGIANLIVMSMVENGLSEQEAQKKIWMFDKYGLLVKGRKAKIDSYQEP FTHSAPESIPDTFEDAVNILKPSTIIGVAGAGRLFTPDVIRAMASINERPVIFALSNPTA QAECTAEEAYTLTEGRCLFASGSPFGPVKLT DGRVFTPGQGNNVYIFPGVALAVILC NTRHISDSVFLEAAKALTSQLTDEELAQGRLYPPLANIQEVSNIAIKVTEYLYANKMA FRYPEPEDKAKYVKERTWRSEYDSLLPDVYEWPESSASSPPVITEHHHHHH
Endotoxin	Less than 1 EU/μg of rHuME2, His as determined by LAL method.
Purity	>95% by SDS-PAGE and HPLC analysis.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile conditions after reconstitution.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤-20 centigrade. Further dilutions should be made in appropriate buffered solutions.

GENE INFORMATION

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Gene Name	ME2
Official Symbol	ME2
Synonyms	ME2; malic enzyme 2, NAD(+)-dependent, mitochondrial; NAD-dependent malic enzyme, mitochondrial; NAD-ME; malate dehydrogenase; pyruvic-malic carboxylase; ODS1;
Gene ID	4200
mRNA Refseq	NM_001168335
Protein Refseq	NP_001161807
MIM	154270
UniProt ID	P23368

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