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ME2 Human

Description:ME2 Human Recombinant produced in E.coli is a single, non-glycosylated polypeptide chain containing 573 amino acids and having a total molecular mass of 64.4kDa.ME2 is purified by proprietary chromatographic techniques.

Synonyms: Malic enzyme 2 NAD(+)-dependent mitochondrial, NAD-ME, ODS1, Malate Dehydrogenase, NAD-dependent malic enzyme mitochondrial, pyruvic-malic carboxylase, Malic enzyme 2, EC 1.1.1.38, EC 1.1.1.

Source: Escherichia Coli.

Physical Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

Amino Acid Sequence:
MLHIKEKGKPLMLNPRTNKGMAFTLQERQMLGLQGLLPPKIETQDIQALRFHRNLKKMTSPLEKYI
YIMGIQERNEKLFYRILQDDIESLMPIVYTPTVGLACSQYGHIFRRPKGLFISISDRGHVRSIVDNWP
ENHVKAVVVTDGERILGLGDLGVYGMGIPVGKLCLYTACAGIRPDRCLPVCIDVGTDNIALLKDPF
YMGLYQKRDRTQQYDDLIDEFMKAITDRYGRNTLIQFEDFGNHNAFRFLRKYREK

Purity: Greater than 95.0% as determined by(a) Analysis by HPLC.(b) Analysis by SDS-PAGE.

Formulation:
The protein was Lyophilized from a 0.2

Stability:
Lyophilized ME2 althoμgh stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution ME2 should be stored at 4°C between 2-7 days and for future use below -18°C.Please prevent freeze-thaw cycles.

Usage:
NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drμgs, agricultural or pesticidal products, food additives or household chemicals.

Solubility:
It is recommended to reconstitute the lyophilized ME2 in sterile 18M-cm H2O not less than 100

Introduction:
ME2 catalyzes the oxidative decarboxylation of malate to pyruvate, malat + NAD(P)+ pyruvate + CO2 + NAD(P)H+, and is found both in eukaryotic and prokaryotic cells. Three different isoforms of ME are known to be in mammalian tissues: a strictly cytosolic NADP+-dependent enzyme, an NADP+-dependent mitochondriail 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. Mitochondrial NAD+-dependent ME 2 activity is seen in tissues that experience many cell divisions, like spleen, thymus, and the basal cells of the small intestinal mucosa. ME2 is also expressed all throμgh the rapid cleavage stages of early Xenopus development. Activity for this isoform is low or nonexistent in brain, muscle, and normal and regenerating liver tissue from rat but was observed in rat adrenal cortex, pigeon and human skeletal muscle, and in heart muscle of some species. In addition, it is expressed in mitochondria of all tumor cells inspected to detain

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ascites tumors, hepatoma cells, and a variety of other tumors and transformed cell lines.

Biological Activity:

ME2 activity was assayed spectrophotometrically at 340nm as described in Mandela and Sauer (1975). The standard reaction mixture contained 50mM Tris.HCl, 3mM MnCl2, 5mM malate, 0.12mM NADP+, 2.5mM fumarate, Assay was performed in a Beckman spectrophotometer. The Km value is 1.5

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