

## Active Recombinant Human MDH2

**Cat. No.** MDH2-1093H    **Lot. No.** (See product label)

### SPECIFICATION

|                             |                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b>     | Human MDH2 (NP_005909, 25 a.a. - 338 a.a.) partial recombinant protein expressed in Escherichia coli.                                                                                                                                                                                                                                                                                               |
| <b>Species</b>              | Human                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Source</b>               | Human                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>ProteinLength</b>        | 25-338 a.a.                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Description</b>          | MDH2 is one of the two malate dehydrogenases. Malate dehydrogenase catalyzes the reversible oxidation of malate to oxaloacetate, utilizing the NAD/NADH cofactor system in the citric acid cycle. In particular, MDH2 is localized to the mitochondria and may play pivotal roles in the malate-aspartate shuttle that operates in the metabolic coordination between cytosol and mitochondria.     |
| <b>Sequence</b>             | MGSSHHHHHH SSGLVPRGSH MAKVAVLGAS GGIGQPLSLL LKNSPLVSRL<br>TLYDIAHTPG VAADLSHIET KAAVKGYLGP EQLPDCLKGC DVVVIPAGVP<br>RKPGMTRDDL FNTNATIVAT LTAACAQHCP EAMICVIANP VNSTIPITAE<br>VFKKHGVYNP NKIFGVTTLD IVRANTFVAE LKGLDPARVN VPVIGGHAGK<br>TIIP LISQCT PKVDFPQDQL TALTGRIQEA GTEVVKAKAG AGSATLSMAY<br>AGARFVFSLV DAMNGKEGVV ECSFVKSQET ECTYFSTPLL LGKKGIEKNL<br>GIGKVSSFEE KMISDAIPEL KASIKKGEDF VKTLK |
| <b>Theoretical MW (kDa)</b> | 35.2                                                                                                                                                                                                                                                                                                                                                                                                |

 Tel: 1-631-559-9269    1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)     Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

|                           |                                                                                                                                                                                   |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Form</b>               | Liquid                                                                                                                                                                            |
| <b>Preparation Method</b> | E. coli expression system                                                                                                                                                         |
| <b>Purity</b>             | > 95% by SDS-PAGE                                                                                                                                                                 |
| <b>Activity</b>           | Specific activity is > 30 units/mg, and is defined as the amount of enzyme that cleaves 1umole of oxalacetate and beta-NADH to L-malate and beta-NAD per minute at pH7.5 at 25°C. |
| <b>Application</b>        | SDS-PAGE                                                                                                                                                                          |
| <b>Storage Buffer</b>     | In 20 mM Tris-HCl, pH 7.5 (10% glycerol)                                                                                                                                          |
| <b>Storage</b>            | Store at 4°C for 1-2 weeks. For long term storage store at -20°C or -80°C. Aliquot to avoid repeated freezing and thawing.                                                        |
| <b>Unitprot ID</b>        | P40926                                                                                                                                                                            |

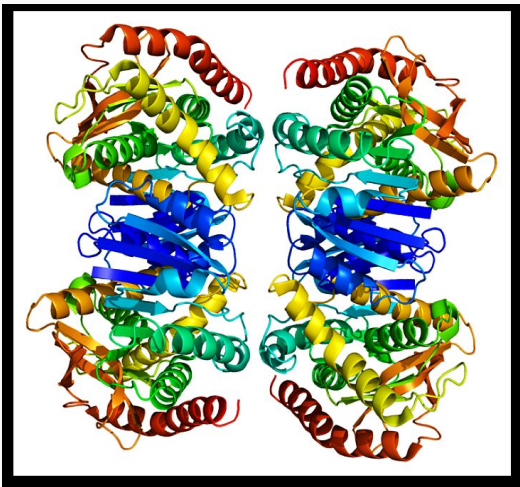
## GENE INFORMATION

|                        |                                                                                                                                                     |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | MDH2 malate dehydrogenase 2, NAD (mitochondrial) [ Homo sapiens ]                                                                                   |
| <b>Official Symbol</b> | MDH2                                                                                                                                                |
| <b>Synonyms</b>        | MDH2; malate dehydrogenase 2, NAD (mitochondrial); OTTHUMP00000210118; malate dehydrogenase, mitochondrial; MDH; MOR1; M-MDH; MGC:3559; EC 1.1.1.37 |
| <b>Gene ID</b>         | 4191                                                                                                                                                |

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|                             |                                                                                                                           |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------|
| mRNA Refseq                 | NM_005918                                                                                                                 |
| Protein Refseq              | NP_005909                                                                                                                 |
| MIM                         | 154100                                                                                                                    |
| Chromosome Location         | 7cen-q22                                                                                                                  |
| Function                    | L-malate dehydrogenase activity; malate dehydrogenase (NADP+) activity; oxidoreductase activity; protein self-association |
| PDBrendering based on 1mld. |                                        |