

## Recombinant Human MTHFD2, GST-tagged

**Cat. No.** MTHFD2-395H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <b>Product Overview</b> | Recombinant Human MTHFD2 (16 a.a. - 344 a.a.), fused with GST-tag at N-terminal, was expressed in Wheat Germ.                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Source</b>           | Wheat Germ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Protein Length</b>   | 16-344 aa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Description</b>      | This gene encodes a nuclear-encoded mitochondrial bifunctional enzyme with methylenetetrahydrofolate dehydrogenase and methenyltetrahydrofolate cyclohydrolase activities. The enzyme functions as a homodimer and is unique in its absolute requirement for magnesium and inorganic phosphate. Formation of the enzyme-magnesium complex allows binding of NAD. Alternative splicing results in two different transcripts, one protein-coding and the other not protein-coding. This gene has a pseudogene on chromosome 7. |
| <b>Molecular Mass</b>   | 61.93 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>AA Sequence</b>      | SLRLRPFHLAAVRNEAVVISGRKLAQQIKQEVQRQVEEWWASGNKRPHLSVILVGEN<br>PASHSYVLNKTAAAVVG INSETIMKPAISIEEELNLINKLNDDNDVGLLVQLPLP<br>EHIDERRICNAVSPDKDVDGFHVINVGRMCLDQYS MLPATPWGVWEIIRTGIPTLG<br>KNVVVAGRSKNVGMPIAMLLHTDGAHERPGGDATVTISHRYTPKEQLKKHTIL ADIVI<br>SAAGIPNLITADMIKEGAAVIDVGINRVHDPVTAKPKLVGDVDFEGVRQKAGYITPVP<br>GGVGPMTVAMLM KNTIIAAKKVLRLEEREVLKSKELGVATN                                                                                                                                                                |

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|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applications</b>        | ELSA; WB-Re; AP; Array                                                                                                                                                                                                                                                                                                                                |
| <b>Storage</b>             | Store at -80°C. Aliquot to avoid repeated freezing and thawing.                                                                                                                                                                                                                                                                                       |
| <b>Storage Buffer</b>      | 50 mM Tris-HCl, 10 mM reduced Glutathione, pH=8.0 in the elution buffer.                                                                                                                                                                                                                                                                              |
| <b>GENE INFORMATION</b>    |                                                                                                                                                                                                                                                                                                                                                       |
| <b>Gene Name</b>           | MTHFD2 methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2, methenyltetrahydrofolate cyclohydrolase [ Homo sapiens ]                                                                                                                                                                                                                          |
| <b>Official Symbol</b>     | MTHFD2                                                                                                                                                                                                                                                                                                                                                |
| <b>Synonyms</b>            | MTHFD2; methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2, methenyltetrahydrofolate cyclohydrolase; NMDMC; methylenetetrahydrofolate dehydrogenase 2; NAD-dependent methylene tetrahydrofolate dehydrogenase cyclohydrolase methylene tetrahydrofolate dehydrogenase (NAD+ dependent), methenyltetrahydrofolate cyclohydrolase; EC 1.5.1.15 |
| <b>Gene ID</b>             | 10797                                                                                                                                                                                                                                                                                                                                                 |
| <b>mRNA Refseq</b>         | NM_006636                                                                                                                                                                                                                                                                                                                                             |
| <b>Protein Refseq</b>      | NP_006627                                                                                                                                                                                                                                                                                                                                             |
| <b>MIM</b>                 | 604887                                                                                                                                                                                                                                                                                                                                                |
| <b>UniProt ID</b>          | P13995                                                                                                                                                                                                                                                                                                                                                |
| <b>Chromosome Location</b> | 2p13.1                                                                                                                                                                                                                                                                                                                                                |

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|-----------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pathway</b>  | C1-unit interconversion; Nucleotide Metabolism; One carbon pool by folate; tetrahydrofolate salvage from 5,10-methenyltetrahydrofolate |
| <b>Function</b> | NOT formate-tetrahydrofolate ligase activity; magnesium ion binding; methenyltetrahydrofolate cyclohydrolase activity                  |

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