

## Recombinant Human MTHFS protein, His-tagged

**Cat. No.** MTHFS-3464H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant Human MTHFS(1-203aa) fused with His tag at N-terminal was expressed in E. coli.                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>ProteinLength</b>    | 1-203 a.a.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Description</b>      | MTHFS, also known as 5-formyltetrahydrofolate cyclo-ligase, is a cytosolic protein involved in the formate metabolic process. MTHFS, with a magnesium cofactor, catalyzes the ATP-dependent reaction that reduces 5-formyltetrahydrofolate (5-MTHF) to 5,10-methenyltetrahydrofolate(MTHF). MTHF is the substrate used by MTHFR (methylenetetrahydrofolate reductase) to generate 5-MTHF. MTHF is also a coenzyme used in thymidine biosynthesis by thymidylate synthase (FAD). |
| <b>Form</b>             | Liquid. In 20mM Tris-HCl buffer (pH 8.0) containing 5mM DTT, 30% glycerol, 0.2M NaCl                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Molecular Mass</b>   | 25.4kDa (223aa) confirmed by MALDI-TOF                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>AA Sequence</b>      | MGSSHHHHHH SSGLVPRGSHIFQRGKICFI PRYRFQSNHM DMVRIESPEE<br>ISLLPKTSWN IPQPGEGDVR EEALSTGGDL LIFMPGLGFD KHGNRLGRGK<br>GYDAYLKRCMAAAVSSAK RSLRGELKQR LRAMSAEERL RQSRVLSQKV<br>IAHSEYQKSK RISIFLSMQD EIETEEIIKDLQHQEVPYPT LALAFKEQIC                                                                                                                                                                                                                                                 |

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LQVPVNENDM KVDEVLYEDS STA

**Purity** >95% by SDS - PAGE

**Storage** Can be stored at +4 centigrade short term (1-2 weeks). For long term storage, aliquot and store at -20 centigrade or -70 centigrade. Avoid repeated freezing and thawing cycles.

**Concentration** 0.5 mg/ml (determined by Bradford assay)

## GENE INFORMATION

**Gene Name** MTHFS 5,10-methenyltetrahydrofolate synthetase (5-formyltetrahydrofolate cyclo-ligase) [ Homo sapiens ]

**Official Symbol** MTHFS

**Synonyms** MTHFS; 5,10-methenyltetrahydrofolate synthetase (5-formyltetrahydrofolate cyclo-ligase); 5-formyltetrahydrofolate cyclo-ligase; HsT19268; methenyl-THF synthetase; FLJ30410;

**Gene ID** 10588

**mRNA Refseq** NM\_006441

**Protein Refseq** NP\_006432

**MIM** 604197

**UniProt ID** P49914

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|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Chromosome Location</b> | 15q24.3                                                                                                                                                                                                      |
| <b>Pathway</b>             | Metabolic pathways, organism-specific biosystem; One Carbon Metabolism, organism-specific biosystem; One carbon pool by folate, organism-specific biosystem; One carbon pool by folate, conserved biosystem; |
| <b>Function</b>            | 5-formyltetrahydrofolate cyclo-ligase activity; 5-formyltetrahydrofolate cyclo-ligase activity; ATP binding; folic acid binding; ligase activity; nucleotide binding;                                        |

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