

Recombinant Human MTHFD1

Cat. No. MTHFD1-29504TH **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant full length Human MTHFD1 with a N terminal proprietary tag: predicted MW 128.59 kDa.
Species	Human
Source	Wheat Germ
ProteinLength	935 amino acids
Description	This gene encodes a protein that possesses three distinct enzymatic activities, 5,10-methylenetetrahydrofolate dehydrogenase, 5,10-methenyltetrahydrofolate cyclohydrolase and 10-formyltetrahydrofolate synthetase. Each of these activities catalyzes one of three sequential reactions in the interconversion of 1-carbon derivatives of tetrahydrofolate, which are substrates for methionine, thymidylate, and de novo purine syntheses. The trifunctional enzymatic activities are conferred by two major domains, an aminoterminal portion containing the dehydrogenase and cyclohydrolase activities and a larger synthetase domain.
Molecular Weight	128.590kDa inclusive of tags
Tissue specificity	Ubiquitous.
Form	Liquid
Purity	Proprietary Purification

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

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

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

Storage buffer	pH: 8.00 Constituents: 0.3% Glutathione, 0.79% Tris HCl
Storage	Shipped on dry ice. Upon delivery aliquot and store at -80oC. Avoid freeze / thaw cycles.
Sequences of amino acids	MAPAEILNGKEISAQIRARLKNQVTQLKEQVPGFTPLAI LQVGNRDDSPLYINVKLK AAEEIGIKATHIKLPRTTTESE VMKYITSLNEDSTVHGFLVQLPLDSENSINTEEVINAI AP EKDVDGLTSINAGRLARGDLNDCFIPCTPKGCLELIKETG VPIAGRHAVVVGRSK IVGAPMHDLLLWNNATVTTCHSKTA HLDEEVNKGDLVVATGQPEMVKGEWIKPGAI VIDCGINY VPDDKKPNGRKVVGDVAYDEAKERASFITPVPGGVGPMTV AMLMQST VESAKRFLEKFKPGKWMIQYNNLNLKTPVPSDI DISRSCKPKPIGKLAREIGLLSEEV ELYGETKAKVLLSAL ERLKHRPDGKYVVVTGITPTPLGEGKSTTTIGLVQALGAH LY QNVFACVRQPSQGPTFGIKGGAAGGGYSQVIPMEEFNL HLTGDIHAITAANNLVAA AIDARIFHELTQTDKALFNRLV PSVNGVRRFSDIQIRRLKRLGIEKTDPTTLTDEEINR FAR LDIDPETITWQRVLDTNRFLRKITIGQAPTEKGHTRTAQ FDISVASEIMAVLAL TTSLEDMRERLGKMMVASSKKGEPV SAEDLGVSGALTVLMKDAIKPNLMQTLEGTP VVFHAGPFA NIAHGNSSIIADQIALKLVGPEGFVVTEAGFGADIGMEKF FNIKCRYSG LCPHVVLVATVRALKMHGGGPTVTAGLPLP KAYIQENLELVEKGFSNLKKQIENAR MFGIPVVAVNAFK TDTESELDLISRLSREHGAFDAVKCTHWAEGGKGALALAQ AV QRAAQAPSSFQLLYDLKLPVEDKIRIIAQKIYGADDIE LLPEAQHKAEVYTKQGFGNL PICMAKTHLSLSHNPEQKGV PTGFILPIRIDIRASVGAGFLYPLVGTMTMPGLPTRP CFY DIDLDPETEQVNGLF
Sequence Similarities	In the N-terminal section; belongs to the tetrahydrofolate dehydrogenase/cyclohydrolase family. In the C-terminal section; belongs to the formate--tetrahydrofolate ligase family.

GENE INFORMATION

Gene Name	MTHFD1 methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 1,
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	methenyltetrahydrofolate cyclohydrolase, formyltetrahydrofolate synthetase [Homo sapiens]
Official Symbol	MTHFD1
Synonyms	MTHFD1; methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 1, methenyltetrahydrofolate cyclohydrolase, formyltetrahydrofolate synthetase; MTHFC, MTHFD; C-1-tetrahydrofolate synthase, cytoplasmic;
Gene ID	4522
mRNA Refseq	NM_005956
Protein Refseq	NP_005947
Uniprot ID	P11586
Chromosome Location	14q24
Pathway	C1-unit interconversion, eukaryotes, organism-specific biosystem; C1-unit interconversion, eukaryotes, conserved biosystem; Metabolic pathways, organism-specific biosystem; Metabolism, organism-specific biosystem; Metabolism of folate and pterines, organism-specific biosystem;
Function	ATP binding; formate-tetrahydrofolate ligase activity; hydrolase activity; ligase activity; methenyltetrahydrofolate cyclohydrolase activity;