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Product datasheet for SC116397

MTHFD1 (NM_005956) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MTHFD1 (NM_005956) Human Untagged Clone
Tag:	Tag Free
Symbol:	MTHFD1
Synonyms:	CIMAH; MTHFC; MTHFD
Mammalian Cell Selection:	None
Vector:	pCMV6-XL5
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF:

>OriGene ORF within SC116397 sequence for NM_005956 edited (data generated by NextGen Sequencing)

ATGGCGCCAGCAGAAATCCTGAACGGGAAGGAGATCTCCGCGCAAATAAGGGCGAGACTG
AAAAATCAAGTCACTCAGTTGAAGGAGCAAGTACCTGGTTTCACACCACGCCTGGCAATA
TTACAGGTTGGCAACAGAGATGATTCCAATCTTTATATAAATGTGAAGCTGAAGGCTGCT
GAAGAGATTGGGATCAAAGCCACTCACATTAAGTTACCAAGAACAACCACAGAATCTGAG
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CTACCTTTAGATTCAGAGAATTCCATTAACACTGAAGAAGTGATCAATGCTATTGCACCC
GAGAAGGATGTGGATGGATTGACTAGCATCAATGCTGGGAGACTTGCTAGAGGTGACCTC
AATGACTGTTTCATTCCTTGTACGCCTAAGGGATGCTTGGAACTCATCAAAGAGACAGGG
GTGCCGATTGCCGGAAGGCATGCTGTGGTGGTTGGGCGCAGTAAAATAGTTGGGGCCCCG
ATGCATGACTTGCTTCTGTGGAACAATGCCACAGTGACCACCTGCCACTCCAAGACTGCC
CATCTGGATGAGGAGGTAAATAAAGGTGACATCCTGGTGGTTGCAACTGGTCAGCCTGAA
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GCCAAAGAGAGGGCGAGCTTCATCACTCCTGTTCCTGGCGGCGTAGGGCCCATGACAGTT
GCAATGCTCATGCAGAGCACAGTAGAGAGTGCCAAGCGTTTCCTGGAGAAATTTAAGCCA
GGAAAGTGGATGATTCAGTATAACAACCTTAACCTCAAGACACCTGTTCCAAGTGACATT
GATATATCACGATCTTGTAAACCGAAGCCCATTGGTAAGCTGGCTCGAGAAATTGGTCTG
CTGTCTGAAGAGGTAGAATTATATGGTGAAACAAAGGCCAAAGTTCTGCTGTCAGCACTA
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GATGCTCGGATATTTCATGAACTGACCCAGACAGACAAGGCTCTCTTTAATCGTTTGGTG
CCATCAGTAAATGGAGTGAGAAGGTTCTCTGACATCCAAATCCGAAGGTTAAAGAGACTA

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GGCATTGAAAAGACTGACCCTACCACACTGACAGATGAAGAGATAAACAGATTTGCAAGA
TTGGACATTGATCCAGAAACCATAACTTGGCAAAGAGTGTTGGATACCAATGATAGATTC
CTGAGGAAGATCACGATTGGACAGGCTCCAACGGAGAAGGGTCACACACGGACGGCCCAG
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GTCAGGGCTCTCAAGATGCACGGGGGCGGCCCCACGGTCACTGCTGGACTGCCTCTTCCC
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CAAATTGAAAATGCCAGAATGTTTGGAATTCCAGTAGTAGTGGCCGTGAATGCATTCAAG
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Clone variation with respect to NM_005956.3
401 a=>g

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_005956 unedited
GTCAAATTTGTATACGACTCCTATAGGCGGCCGCGCAATTCGCACGAGGGGGAACCTCGA
TATTGGTGGTGTCCATCGTGGGCAGCGGACTAATAAAGGCCATGGCGCCAGCAGAAATCC
TGAACGGGAAGGAGATCTCCGCGCAAATAAGGGNCGAGAACTGAAAAATCAAGTCACTCA
GTTGAAGGAGCAAGTACCTGGTTTCACACCACGCCTGGCAATATTACAGGTTGGCAACAG
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GTGGAACAATGCCACAGTGACCACCTGCCACTCCAAGACTGCCCATCTGGATGAGGAGGT
AAATAAAGGTGACATNCTGGTGGTTGCAACTGGTCAGCCTGAAATGTTTAAAGGGGAGTG
GATCAAACCTGGNNGCATAGTCATCGACTGTGGAATCAATATGTCCCAGATGATAAAAAA
CCAAATGGGAGAAAGTTGTTGGGTGATGTTGCATACGACGAGGCCACAGAGAGGGCGAGC
TTCATCACTCCTGTTTCTGGCCGCGTAAGGC

3' Read Nucleotide Sequence:

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>OriGene 3' read for NM_005956 unedited
ACGCGGGCCGCAATCTAGNATCGAGTTTTTTTTTTTTTTTTTTGATGGCAAACTTGTTTC
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CATGATGAGAATTAAGGCTGAAAATGACTTCTGGGGAAACTCCTACTATTAGTTTCAGAT
CTTCTGGGCAGGGGCTGACTTCTCTTGGCTTACTTATACTTCCTAACTCCCAGTGGGCCT
GAATAGACACTGGCCAGACTTTCAAAGTAGCTTCTTGAAGATGGATGGTGATCTGTTTAG
AATAATCCATTCACCTGTTCTGTTTCAGGGTCCAAATCAATATCATAAAAACAGGGCCGG
GTGGGGAGTCCAGGCATTGTGCTCATCGTTCCTACTAAGGGGTACAGAAAACCAGCCCCA
ACGCTGGCGCGGATGTCGCGAATGGGCAGAATGAAGCCTGTAGGGACACCTTTTTGCTCT
GGGTTGTGAGACAAAGACAAGTGTGTTTTAGCCATGCAGATGGGGAGATTCCCAAAGCCC
TGCTTCGTGTAGACTTCAGCTTTGTGTTGAGCTTCGGGAAGTAATTCAATGTCATCTGCT
CCATAGATCTTCTGTGCAATGATCCTGATTTTATCCTCAACTGGGAGCTTGAGGTCATAA
AGGAGCTGGAAGCTGCTGGGTGCTTGTGCTGCTCTCTGGACGGCCTGAGCCAGGGCTAAA
GCACCCTTGCCCCCTTCTGCCCAGTGAGTGCACTTCACGGCATCAAAAGCCCCATGTTCT
CTGGNAAGGCGGCTGATGAAGTCCAGCTCANACTCTGTATCCGTCTTTGATGCCTTCACG
GCCACTACTACTGGGATTCCAACATTCTGGCATTTTCATTTGTTCTTCAAGTACTGAACC
CTTTTAACCGCTCCAGTTCTCCTGTTGTTAGN
```

Restriction Sites: NotI-NotI

ACCN: NM_005956

Insert Size: 3460 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:
1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: NM_005956.2, NP_005947.2

RefSeq Size: 3110 bp

RefSeq ORF: 2808 bp

Locus ID: 4522

UniProt ID: P11586

Cytogenetics: 14q23.3

Domains: FTHFS, THF_DHG_CYH

Protein Families: Druggable Genome, Stem cell - Pluripotency

Protein Pathways:	Glyoxylate and dicarboxylate metabolism, Metabolic pathways, One carbon pool by folate
Gene Summary:	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. [provided by RefSeq, Jul 2008]