

Product datasheet for **SC323742**

MTHFD2 (NM_006636) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MTHFD2 (NM_006636) Human Untagged Clone
Tag:	Tag Free
Symbol:	MTHFD2
Synonyms:	NMDMC
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC (PS100020)
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >OriGene sequence for NM_006636 edited
 CCGTCTATGGCTGCGACTTCTCTAATGTCTGCTTTGGCTGCCCGGCTGCTGCAGCCCGG
 CACAGTGCTCCCTTCGCCTTCGCCCTTCCACCTCGCGGCAGTTCGAAATGAAGCTGT
 GTCATTCTGGAAGAACTGGCCACAGATCAAGCAGGAAGTGCAGGAGGAGTAGAA
 GAGTGGGTGGCCTCAGGCAACAAACGGCCACACCTGAGTGTGATCCTGGTTGGCGAGAAT
 CCTGCAAGTCACTCCTATGTCTCAACAAAACAGGGCAGCTGCAGTTGTGGGAATCAAC
 AGTGAGACAATTATGAAACCAGCTTCAATTTAGAGGAAGAATTGTTGAATTTAATCAAT
 AAAGTGAATAATGATGATAATGTAGATGGCCTCCTTGTTCAGTTGCCTCTCCAGAGCAT
 ATTGATGAGAGAAGGATCTGCAATGCTGTTTCTCCAGACAAGGATGTTGATGGCTTTCAT
 GTAATTAATGTAGGACGAATGTGTTGGATCAGTATTCCATGTTACCGGCTACTCCATGG
 GGTGTGTGGGAAATAATCAAGCGAACTGGCATTCCAACCTAGGGAAGAATGTGTTGTG
 GCTGGAAGGTCAAAAACGTTGGAATGCCATTGCAATGTTACTGCACACAGATGGGGCG
 CATGAACGTCCCGGAGGTGATGCCACTGTTACAATATCTCATCGATACTCCCAAAGAG
 CAGTTGAAGAAACATAACAATTCTTGAGATATTGTAATATCTGCTGCAGGTATTCCAAT
 CTGATCACAGCAGATATGATCAAGGAAGGAGCAGCAGTCATTGATGTGGGAATAAATAGA
 GTTCACGATCCTGTAACGCCAAACCAAGTTGGTTGGAGATGTGGATTTTGAAGGAGTC
 AGACAAAAGCTGGGTATCACTCCAGTTCCTGGAGGTGTTGGCCCATGACAGTGGCA
 ATGCTAATGAAGAATACCATTATTGCTGCAAAAAGGTGCTGAGGCTTGAAGAGCGAGAA
 GTGCTGAAGTCTAAAGAGCTTGGGTAGCCACTAATTAACACTGTGCTTCTGTGTCAC
 AAACAGCACTCCAGGCCAGCTCAAGAAGCAAAGCAGGCCAATAGAAATGCAATATTTTTA
 ATTTATTCTACTGAAATGGTTAAAAATGATGCCTTGATTTATTGAAAGCTTAAATGGGT
 GGGTGTCTGTCACATACCTCTGCAGTACCTACCAGGGAGCATTCCAGTATCATGCAGG
 GTCCTGTGATCTAGCCAGGAGCAGCCATTAACCTAGTGATTAATATGGGAGACATTACCA
 TATGGAGGATGGATGCTTCACTTTGTCAAGCACCTCAGTTACACATTTCGCCTTTCTAGG
 ATTGCATTTCCCAAGTGCTATTGCAATAACAGTTGATACTCATTTTAGGTACCAAACCTT
 TTGAGTTCAACTGATCAAACCAAGGAAAAGTGTGCTAGAGAAAATTAGGAAAAGGTG
 AAAAAGAAAAATGGTAGTAATTGAGCAGAAAAAATTAATTTATATATGATTGATTGG
 CAACCAGATTTATCTAAGTAGAACTGAATTGGCTAGGAAAAAGAAAAACTGCATGTTAA
 TCATTTTCTAAGCTGCCTTTTGGAGCTTAGTCAGTTTATTGGGAAAATGTTTAGGATT
 ATTCTTGTCTATTAGTACTCATTTTATGTATGTTACCCTTCAGTAAGTTCTCCCCATTTT
 AGTTTTCTAGGACTGAAAGGATTCTTTTCTACATTATACATGTGTGTTGTCATATTTGGC
 TTTTGCTATATACTTTAACTTCATTGTTAAATTTTGTATTGTATAGTTCTTTGGTGTA
 TCTTAAAACCTATTTTTGAAAAACAACTTGGCTTGATAATCATTGGGCAGCTTGGGTA
 AGTACGCAACTTACTTTCCACCAAGAACTGTCAGCAGCTGCCTGCTTTTCTGTGATGT
 ATGTATCCTGTTGACTTTTCCAGAAATTTTAAAGAGTTTGGATTACTATTGAATTTAAT
 CAGACTTCTGATTAAGGGTTTTCTTTCTTTTAAATAAAACACATCTGTCTGGTATGG
 TAAAAAAAAAAAAAAAAAAAA

Restriction Sites: ECoRI-NOT
ACCN: NM_006636
Insert Size: 2100 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

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_006636.3](#), [NP_006627.2](#)

RefSeq Size: 2208 bp

RefSeq ORF: 1053 bp

Locus ID: 10797

UniProt ID: [P13995](#)

Cytogenetics: 2p13.1

Domains: THF_DHG_CYH

Protein Families: Druggable Genome

Protein Pathways: Glyoxylate and dicarboxylate metabolism, Metabolic pathways, One carbon pool by folate

Gene Summary:

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. [provided by RefSeq, Mar 2009]

Transcript Variant: This variant (1) represents the shorter transcript and is the protein-coding transcript.