

## Product datasheet for RC205749

### MTHFS (NM\_006441) Human Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** MTHFS (NM\_006441) Human Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** MTHFS  
**Synonyms:** HsT19268; NEDMEHM  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**ORF Nucleotide Sequence:** >RC205749 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGGCGGCGGCAGCGGTGAGCAGCGCCAAGCGTAGCCTGCGGGGAGAGCTGAAGCAGCGTCTGCGGGCGA  
 TGAGTGCCGAGGAGCGGCTACGCCAGTCCCAGTACTGAGCCAGAAGGTGATTGCCACAGTGAGTATCA  
 AAAGTCCAAAAGAATTTCCATCTTTCTGAGCATGCAAGATGAAATTGAGACAGAAGAGATCATCAAGGAC  
 ATTTTCCAACGAGGCAAAATCTGCTTCATCCCTCGGTACCGGTTCCAGAGCAATCACATGGATATGGTGA  
 GAATAGAATCACCAGAGGAAATTTCTTTACTTCCAAAACATCCTGGAATATCCCTCAGCCTGGTGAGGG  
 TGATGTTGCGGGAGGAGGCCTTGCCACAGGGGACTTGATCTCATCTTCATGCCAGGCCTTGGGTTTGAC  
 AAACATGGCAACCGACTGGGGAGGGGCAAGGGCTACTATGATGCCTATCTGAAGCGCTGTTTGCAGCATC  
 AGGAAGTGAAGCCCTACACCCTGGCGTTGGCTTTCAAAGAACAGATTTGCCTCCAGGTCCCAGTGAATGA  
 AAACGACATGAAGGTAGATGAAGTCCTTACGAAGACTCGTCAACAGCT

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC205749 protein sequence  
 Red=Cloning site Green=Tags(s)

MAAAVSSAKRSLRGELKQRLRAMSAEERLRQSRVLSQKVIHSEYQKSKRISIFLSMQDEIETEEIISKD  
 IFQRGKICFIPRYRFQSNHMDMVRIESPEEISLLPKTSWNIPQPGEGDVREEALSTGGLDLIFMPGLGFD  
 KHGNRLGRGKGYDAYLKRCLQHQEVKPYTLALAFKEQICLQVPVNDMMKVDEVLYEDSSTA

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV



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**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6326\\_h09.zip](https://cdn.origene.com/chromatograms/mk6326_h09.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_006441

**ORF Size:** 609 bp

**OTI Disclaimer:** 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 clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**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\\_006441.4](#)

**RefSeq Size:** 2346 bp

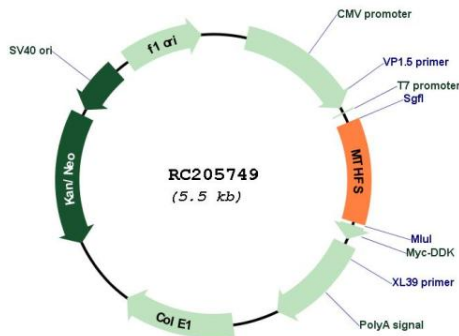
**RefSeq ORF:** 612 bp

**Locus ID:** 10588

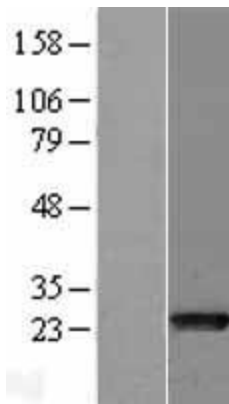
**UniProt ID:** [P49914](#)  
**Cytogenetics:** 15q25.1  
**Domains:** 5-FTHF\_cyc-lig  
**Protein Pathways:** Metabolic pathways, One carbon pool by folate  
**MW:** 23.3 kDa

**Gene Summary:** The protein encoded by this gene is an enzyme that catalyzes the conversion of 5-formyltetrahydrofolate to 5,10-methenyltetrahydrofolate, a precursor of reduced folates involved in 1-carbon metabolism. An increased activity of the encoded protein can result in an increased folate turnover rate and folate depletion. Three transcript variants encoding two different isoforms have been found for this gene. [provided by RefSeq, Jun 2011]

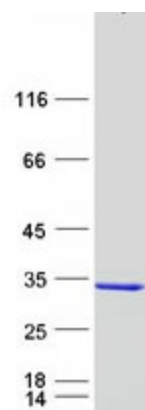
### Product images:



Circular map for RC205749



Western blot validation of overexpression lysate (Cat# [LY416629]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC205749 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MTHFS protein (Cat# [TP305749]). The protein was produced from HEK293T cells transfected with MTHFS cDNA clone (Cat# RC205749) using MegaTran 2.0 (Cat# [TT210002]).