

Product datasheet for **SC319885**

MTH1 (NUDT1) (NM_198952) Human Untagged Clone

Product data:

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|----------------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | MTH1 (NUDT1) (NM_198952) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | MTH1 |
| Synonyms: | MTH1 |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-AC (PS100020) |
| E. coli Selection: | Ampicillin (100 ug/mL) |
| Fully Sequenced ORF: | >OriGene sequence for NM_198952.1 AAGCGGCGGTGCAGGTTTCTTGCCTTGATGTACTGGAGCAATCAGATCACACGGCGGCTT GGAGAGTGAGTGCAAGGTTTTATGAGTGAATTAGCCCTCAGCAGATGGGGGAGCCAGAA GGCAGTTGGAGTGGGAAGAACCAGGGACCATGGGCGCCTCCAGGCTCTATACCTGGTG CTGGTCTGCAGCCTCAGCGAGTTCTCCTGGGCATGAAAAAGCGAGGCTTCGGGGCCGGC CGGTGGAATGGCTTTGGGGCAAAGTGCAAGAAGGAGAGACCATCGAGGATGGGGCTAGG AGGGAGCTGCAGGAGGAGAGCGGTCTGACAGTGGACGCCCTGCACAAGGTGGCCAGATC GTGTTTGAGTTCGTGGGCGAGCCTGAGCTCATGGACGTGCATGTCTTCTGCACAGACAGC ATCCAGGGGACCCCGTGGAGAGCGACGAAATGCGCCCATGCTGGTTCAGCTGGATCAG ATCCCTTCAAGGACATGTGGCCCGACGACAGCTACTGGTTTCCACTCCTGCTTCAGAAG AAGAAATTCACGGGTACTTCAAGTTCAGGGTCAGGACACCATCCTGGACTACACTC CGCGAGGTGGACACGGTCTAGCGGGAGCCAGGGCAGCCCTGGGCAGGAGACGTGGCTG CTGAACAGCCGCAACCATCTTACCTGTGGGCATTGAGTGGCGCAGAGCCGGGTTTCAT CTGGAATTAAGTGGATGGAAGGGAAAAATAAGCTATCTAGCGGTGAAAAAAAAAAAAAA AAAAAAAAAAAAAA |
| Restriction Sites: | Please inquire |
| ACCN: | NM_198952 |
| Insert Size: | 800 bp |



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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_198952.1](#), [NP_945190.1](#)

RefSeq Size: 813 bp

RefSeq ORF: 540 bp

Locus ID: 4521

UniProt ID: [P36639](#)

Cytogenetics: 7p22.3

Protein Families: Stem cell - Pluripotency

Gene Summary:

Misincorporation of oxidized nucleoside triphosphates into DNA/RNA during replication and transcription can cause mutations that may result in carcinogenesis or neurodegeneration. The protein encoded by this gene is an enzyme that hydrolyzes oxidized purine nucleoside triphosphates, such as 8-oxo-dGTP, 8-oxo-dATP, 2-hydroxy-dATP, and 2-hydroxy rATP, to monophosphates, thereby preventing misincorporation. The encoded protein is localized mainly in the cytoplasm, with some in the mitochondria, suggesting that it is involved in the sanitization of nucleotide pools both for nuclear and mitochondrial genomes. Several alternatively spliced transcript variants, some of which encode distinct isoforms, have been identified. Additional variants have been observed, but their full-length natures have not been determined. A rare single-nucleotide polymorphism that results in the production of an additional, longer isoform (p26) has been described. [provided by RefSeq, Dec 2018]

Transcript Variant: This variant (3B) differs in the 5' UTR and 5' coding region compared to variant 1, resulting in translation initiation at an upstream ATG and an isoform (p22, also known as MTH1b) with a longer N-terminus compared to isoform p18. Variants 2B, 3B, and 4B encode the same isoform.