

Product datasheet for **SC120035**

MSH6 (NM_000179) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MSH6 (NM_000179) Human Untagged Clone
Tag:	Tag Free
Symbol:	MSH6
Synonyms:	GTBP; GTMBP; HNPCC5; HSAP; MMRC5; p160
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC120035 sequence for NM_000179 edited (data generated by NextGen Sequencing)

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ATGTCGCGACAGAGCACCCTGTACAGTCTTCCCAAGTCTCCGCGCTGAGTGATGCC
AACAAAGCCTCGGCCAGGCCTCACGCGAAGGCGGCCGTGCCCGCTGCCCCGGGCC
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CATATATCCAAGTATGATAGAGTGGTGAGGAGGGAGATCTGTAGGATCATTACCAAGGGT
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GAAAGGTCAACTGTAGATGCTGAAGCTGTCCATAAATTGCTGACTTTGATTAAGGAATTA
TAG

Clone variation with respect to NM_000179.2

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_000179 unedited
 TTGGATTTTGTAAACCGACTTATATAGGCGGCCGCGCAATTCGCACGAGGGCGCGGTAGAT
 GCGGTGCTTTTAGGAGCTCCGTCCGACAGAACGGTTGGGCCTTGCCGGCTGTCGGTATGT
 CCGCAGACAGACACCCTGTACAGTCTTCCCAAGTCTCCGGCGCTGAGTGATGCCAACA
 AGGCCTCGGCCAGGGCTCACGCGAAGGCGGCCGTGCCGCCGTGCCCGGGGCTCTC
 CTTCCCAAGGCGGGGATGCGGCCTGGAGCGAGGCTGGCCTGGGCCAGGCCCTTGCGC
 GCTCCGCGTCACCGCCCAAGGCGAAGAACCTCAACGGAGGGCTGCGGAGATCGGTAGCGC
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 GAAGAGGAAGAAGAGATGGANGTAGGGCACACTTACGTACAGATAAGAGTGAAGAAAGA
 TATGAAATTGAGAGTGAAGAGGAAGTACAGCCTAAGACACAGGGATCTAGCGAAGTAGCC
 GCCAAATAAAAAAACGAAGGGTCATATCAGATTCTGAGAGTGACATGGNTGGCTCTGATG
 TGAATTTAAGCCAGAACCTAAGGAGGAAAGAN

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_000179 unedited
 CCGCGCCGCAATCTAGAGTCGAGTTTTTTTTTTTTTTTTTTTTCATTTTTAAAAATAAAG
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 CCAATGTAGTCAGTCTATAATTCCTTAATCAAAGTCAGCAATTTATGGACAGCTTCAGCA
 TCTACAGTTGACCTTTACTAGCCAGGCAAACTCCCGAAATAATCGTAGTGACTGATTC
 ATCTTCTCAAATCTCTTGCTTTTCTATGTCCCTTTGAATAACTTCTCTGGGAGATTA
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 GCTGTTGCATGCATGAGTATGCTGGCAGTTTCACTTAATCAACAAAAATGTAATTTCA
 CCTGACATTATTCTGTCTGAGGCACCAAGTCTAGTAAACTCTATCAATTGGTGTGAGC
 CTGCACACTTCAGCAGGGACGTAACAACCCATCTGGGCCATTACAGCTAATAAGCCAGCC
 TGTCTATAAGCGTAGACTTGCCCNCAATTTGGTCCAGTAACAAGCACACATAGGGCT
 TGCCAATTTCTGCTCCTCTTCTCACAGNCTATTAGAATGTCATTAGGATAAAATCATCT
 CCAAAAAAGTCTTGTATGCAGGATGCGGGATCTTAGCT

Restriction Sites:

NotI-NotI

ACCN:

NM_000179

Insert Size:

4310 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](#)

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_000179.1](#), [NP_000170.1](#)

RefSeq Size: 4264 bp

RefSeq ORF: 4083 bp

Locus ID: 2956

UniProt ID: [P52701](#)

Cytogenetics: 2p16.3

Domains: PWWP, MutS_V, MutS_I, MutS_III, MutS_II, MutS_IV

Protein Families: Druggable Genome, Stem cell - Pluripotency

Protein Pathways: Colorectal cancer, Mismatch repair, Pathways in cancer

Gene Summary:

This gene encodes a member of the DNA mismatch repair MutS family. In *E. coli*, the MutS protein helps in the recognition of mismatched nucleotides prior to their repair. A highly conserved region of approximately 150 aa, called the Walker-A adenine nucleotide binding motif, exists in MutS homologs. The encoded protein heterodimerizes with MSH2 to form a mismatch recognition complex that functions as a bidirectional molecular switch that exchanges ADP and ATP as DNA mismatches are bound and dissociated. Mutations in this gene may be associated with hereditary nonpolyposis colon cancer, colorectal cancer, and endometrial cancer. Transcripts variants encoding different isoforms have been described. [provided by RefSeq, Jul 2013]

Transcript Variant: This variant (1) represents the longest transcript and encodes the longest protein (isoform 1).