

Product datasheet for **SC320735**

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; MMRC3; p160
Mammalian Cell Selection: Neomycin
Vector: pCMV6-AC (PS100020)
E. coli Selection: Ampicillin (100 ug/mL)

Fully Sequenced ORF: >OriGene sequence for NM_000179.1
TGCTTTTAGGAGCTCCGTCGACAGAACGGTTGGGCCTTGCCGGCTGTCGGTATGTCGGC
ACAGAGCACCTGTACAGCTTCTCCCAAGTCTCCGGCGCTGAGTGATGCCAACAGGC
CTCGGCCAGGGCCTCACGCGAAGGCGGCGTGCCGCCGCTGCCCCGGGGCCTCTCCTTC
CCCAGGCGGGGATGCGGCCTGGAGCGAGGCTGGGCCTGGGCCAGGCCCTTGCGCGGATC
CGCGTCACCGCCAAGGCGAAGAACCCTCAACGGAGGGCTGCGGAGATCGGTAGCGCTGC
TGCCCCACCAGTTGTGACTTCTCACCGGAGATTTGGTTTGGCCAAGATGGAGGGTTA
CCCCTGGTGGCCTTGCTGGTTTACAACCACCCCTTTGATGGAACATTATCCGCGAGAA
AGGAAATCAGTCCGTGTTTATGTACAGTTTTTATGATGACAGCCCAACAAGGGCTGGGT
TAGCAAAAGGCTTTTAAAGCCATATACAGGTTCAAATCAAAGGAAGCCAGAAGGGAGG
TCATTTTTACAGTGCAAAGCCTGAAATACTGAGAGCAATGCAACGTGCAGACGAAGCCTT
AAATAAAGACAAGATTAAGAGGCTTGAATTGGCAGTTTGTGATGAGCCCTCAGAGCCAGA
AGAGGAAGAAGAGATGGAGGTAGGCACAACCTACGTAACAGATAAGAGTGAAGAAGATAA
TGAAATTGAGAGTGAAGAGGAAGTACAGCCTAAGACACAAGGATCTAGGCGAAGTAGCCG
CCAAATAAAAAACGAAGGGTCAATCAGATTCTGAGAGTGACATTGGTGGCTCTGATGT
GGAATTTAAGCCAGACACTAAGGAGGAAGGAGCAGTGTGAAATAAGCAGTGGAGTGGG
GGATAGTGAGAGTGAAGGCCTGAACAGCCCTGTCAAAGTTGCTCGAAAGCGGAAGAGAAT
GGTGACTGGAAATGGCTCTCTTAAAAGGAAAAGCTCTAGGAAGGAAACGCCCTCAGCCAC
CAAACAAGCAACTAGCATTTCATCAGAAACCAAGAATACTTTGAGAGCTTCTCTGCCCC
TCAAAATTCTGAATCCCAAGCCACGTTAGTGGAGGTGGTGTGATGACAGTGTGCGCCCTAC
TGTTTGGTATCATGAACTTTAGAATGGCTTAAGGAGGAAAAGAGAAGAGATGAGCACAG
GAGGAGGCCTGATCACCCGATTTTGTGATGATCTACACTCTATGTGCCTGAGGATTTCT
CAATTCTGTACTCCTGGGATGAGGAAGTGGTGGCAGATTAAGTCTCAGAACTTTGATCT
TGTCATCTGTTACAAGGTGGGAAATTTATGAGCTGTACCACATGGATGCTCTTATTGG
AGTCAGTGAAGTGGGCTGGTATTCATGAAAGGCAACTGGGCCATTCTGGCTTCTCTGA
AATTGCATTTGGCCGTTATTCAGATTCCTGGTGCAGAAGGGCTATAAAGTAGCACGAGT
GGAACAGACTGAGACTCCAGAAATGATGGAGGCACGATGTAGAAAGATGGCACATATATC



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CAAGTATGATAGAGTGGTGAGGAGGGAGATCTGTAGGATCATTACCAAGGGTACACAGAC
 TTACAGTGTGCTGGAAGGTGATCCCTCTGAGA ACTACAGTAAGTATCTTCTTAGCCTCAA
 AGAAAAAGAGGAAGATCTTCTGGCCATACTCGTG CATATGGTGTGTGCTTTGTTGATAC
 TTCACTGGGAAAGTTTTTCATAGGTCAGTTTTTCAGATGATCGCCATTGTTTCGAGATTTAG
 GACTCTAGTGGCACACTATCCCCAGTACAAGTTTTATTTGAAAAAGGAAATCTCTCAA
 GGAAACTAAAAAATCTAAAGAGTTCATTGTCCTGTTCTCTTCAGGAAGGTCTGATACC
 CGGCTCCAGTTTTGGGATGCATCCAAAACCTTTGAGAACTCTCCTTGAGGAAGAATATTT
 TAGGGAAAAGCTAAGTGATGGCATTGGGGTGATGTTACCCAGGTGCTTAAAGGTATGAC
 TTCAGAGTCTGATTCCATTGGGTTGACACCAGGAGAGAAAAAGTGAATTGGCCCTCTCTGC
 TCTAGGTGGTTGTCTTCTACCTCAAAAAATGCCTTATTGATCAGGAGCTTTTTCAAT
 GGCTAATTTTGAAGAATATATCCCTTGGATTCTGACACAGTCAGCACTACAAGTCTGG
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 GGAGATTTTTCTGAATGGAACAAATGGTCTACTGAAGGAACCTACTAGAGAGGGTTGA
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 CAAAATCTCCGAAGTTGTAGAGCTTCTAAAGAAGCTTCCAGATCTTGAGAGGCTACTCAG
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 TGATTTGACTGTAGAATTGAACCGATGGGATACAGCCTTTGACCATGAAAAGGCTCGAAA
 GACTGGACTTATTACTCCCAAAGCAGGCTTTGACTCTGATTATGACCAAGCTCTTGCTGA
 CATAAGAGAAAAATGAACAGAGCCTCCTGGAATACCTAGAGAAAACAGCGCAACAGAATTGG
 CTGTAGGACCATAGTCTATTGGGGGATTGGTAGGAACCGTTACCAGCTGGAATTCCTGA
 GAATTTACCACTCGCAATTTGCCAGAAGAATACGAGTTGAAATCTACCAAGAAGGGCTG
 TAAACGATACTGGACAAAACCTATTGAAAAGAAGTTGGCTAATCTATAAATGCTGAAGA
 ACGGAGGGATGTATCATTGAAGGACTGCATGCGGCGACTGTTCTATAACTTTGATAAAAA
 TTACAAGGACTGGCAGTCTGCTGTAGAGTGTATCGCAGTGTGGATGTTTTACTGTGCCT
 GGCTAACTATAGTCGAGGGGGTGTGGTCTATGTGTCGCCAGTAATTCTGTTGCCGA
 AGATACCCCCCTTCTAGAGCTTAAAGGATCACGCCATCCTTGCATTACGAAGACTTT
 TTTTGGAGATGATTTTATCCTAATGACATTCTAATAGGCTGTGAGGAAGAGGAGCAGGA
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 TATGAGACAGGCTGGCTATTAGCTGTAATGGCCAGATGGGTTGTTACGTCCCTGCTGA
 AGTGTGCAAGGCTCACACCAATTGATAGAGTGTACTAGACTTGGTGCCTCAGACAGAAT
 AATGTCAGGTGAAAGTACATTTTTTGTGAATTAAGTGAACCTGCCAGCATACTCATGCA
 TGCAACAGCACATTCTCTGGTGTGTTGGATGAATTAGGAAGAGGTAAGCAACATTTGA
 TGGGACGGCAATAGCAAATGCAGTTGTTAAAGA ACTTGCTGAGACTATAAAATGTCGTAC
 ATTTTTTCAACTCACTACCATTCTAGTAGAAGATTATTCTCAAAATGTTGCTGTGCG
 CCTAGGACATATGGCATGCATGGTAGAAAATGAATGTGAAGACCCAGCCAGGAGACTAT
 TACGTTCTCTATAAATTCATTAAGGGAGCTTGTCTAAAAGCTATGGCTTTAATGCAGC
 AAGGCTTGCTAATCTCCCAGAGGAAGTTATTCAAAGGGACATAGAAAAGCAAGAGAATT
 TGAGAAGATGAATCAGTCACTACGATTATTTCCGGAAGTTTGCCTGGCTAGTGAAGGTC
 AACTGTAGATGCTGAAGCTGTCCATAAATTGCTGACTTTGATTAAGGAATTATAGACTGA
 CTACATTGGAAGCTTTGAGTTGACTTCTGACAAAGGTGGTAAATTCAGACAACATTATGA
 TCTAATAAACTTTATTTTTAAAAAATGAAAAAAAAAAAAAAAAAAAAA

Restriction Sites:

Please inquire

ACCN:

NM_000179

OTI Disclaimer:	<p>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.</p> <p>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</p>
OTI Annotation:	<p>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.</p>
Components:	<p>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).</p>
Reconstitution Method:	<ol style="list-style-type: none"> 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:	<u>NM_000179.1, NP_000170.1</u>
RefSeq Size:	4264 bp
RefSeq ORF:	4083 bp
Locus ID:	2956
UniProt ID:	<u>P52701</u>
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).