

## Product datasheet for **RC401462**

### MSH6 (NM\_000179) Human Mutant ORF Clone

#### Product data:

Product Type:	Mutant ORF Clones
Product Name:	MSH6 (NM_000179) Human Mutant ORF Clone
Mutation Description:	Q1258X
Affected Codon#:	1258
Affected NT#:	3772
Nucleotide Mutation:	MSH6 Mutant (Q1258X), Myc-DDK-tagged ORF clone of Homo sapiens mutS homolog 6 (E. coli) (MSH6) as transfection-ready DNA
Effect:	Colorectal cancer, non-polyposis
Symbol:	MSH6
Synonyms:	GTBP; GTMBP; HNPCC5; HSAP; MMRC3; p160
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_000179
ORF Size:	3771 bp
Restriction Sites:	SgfI-MluI
ORF Nucleotide Sequence:	>RC401462 representing NM_000179 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGTGCGGACAGAGCACCTGTACAGCTTCTTCCCAAGTCTCCGGCGCTGAGTGATGCCAACAAGGCCT  
CGGCCAGGGCCTCACGCGAAGGCGCCGTGCCGCCGCTGCCCGGGGCTCTCCTTCCCGAGGCGGGGA  
TGCGGCCTGGAGCGAGGCTGGGCCTGGGCCAGGCCCTTGGCGCGCTCCGCGTACCGCCCAAGGCGAAG  
AACCTCAACGGAGGGCTGCGGAGATCGGTAGCGCCTGCTGCCCCACCAGTTGTGACTTCTACCAGGAG  
ATTTGGTTTGGCCAAGATGGAGGGTTACCCCTGGTGGCCTTGTCTGGTTTACAACCACCCCTTTGATGG  
AACATTATCCGCGAGAAAGGAAATCAGTCCGTGTTTCATGTACAGTTTTTTGATGACAGCCCAACAAGG  
GGCTGGTTAGCAAAGGCTTTAAAGCCATATACAGGTTCAAATCAAAGGAAGCCAGAAGGGAGGTC



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ATTTTACAGTGCAAAGCCTGAAATACTGAGAGCAATGCAACGTGCAGATGAAGCCTTAAATAAAGACAA  
 GATTAAGAGGCTTGAATTGGCAGTTTGTGATGAGCCCTCAGAGCCAGAAGAGGAAGAAGAGATGGAGGTA  
 GGCACAACCTACGTAACAGATAAGAGTGAAGAAGATAATGAAATTGAGAGTGAAGAGGAAGTACAGCCTA  
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 CATTGGTGGCTCTGATGTGGAATTTAAGCCAGACACTAAGGAGGAAGGAAGCAGTGTGAAATAAGCAGT  
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 TGTGTCGCCAGTAATCTGTTGCCGGAAGATACCCCCCTTCTTAGAGCTTAAAGGATCACGCCATCC  
 TTGCATTACGAAGACTTTTTTTGGAGATGATTTTATTCCTAATGACATTCTAATAGGCTGTGAGGAAGG  
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 AATTAGGAAGAGTACTGCAACATTTGATGGGACGGCAATAGCAATGCAGTTGTTAAAGAACTTGCTGA  
 GACTATAAAATGTCGTACATTATTTCAACTACTACCATTATTAGTAGAAGATTATTCT

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:** >RC401462 representing NM\_000179  
Red=Cloning site Green=Tags(s)

MSRQSTLYSFFPKSPALSDANKASARASREGGRAAAAPGASPSGGDAAWSEAGPGRPLARSASPPKAK  
 NLNGGLRRSVAPAAPTSCDFSPGDLVWAKMEGYPPWVCLVYNHPFDGTFIREKGSVRVHVQFFDDSPTR  
 GWVSKRLLKPYTGSKSKEAQKGGHFYSAKPEILRAMQRADEALNKDKIKRLELAVCDEPSEPEEEEEIEV  
 GTTYVTDKSEEDNEIESEEEVQPKTQGSRRSSRQIKRRRVIDSESDIGGSDVEFKPDTKEEGSSDEISS  
 GVGDSSEGLNSPVKVARKRKMVTGNGSLKRKSSRKETPSATKQATSISSETKNTRAFSAPQNSEQA  
 HVSGGGDDSSRPTVWYHETLEWLKKEEKRRDEHRRRPDHPDFDASTLYVPEDFLNSCTPGMRKWWQIKSQN  
 FDLVICYKVGKFYELYHMDALIGVSELGLVFMKGNWAHSGFPEIAFGRYSDSLVQKGYKVARVEQTETPE  
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 VDTSLGKFFIGQFSDDRHCSRFRTLVAHYPPVQVLFKGNLSKETKTIKSSLSLQGLIPGSQFWD  
 SKTLRLLLEEEYFREKLSDGIGVMLPQVLKGMTSESDSIGLTPGEKSELALSALGGCVFYLLKCLIDQEL  
 LSMANFEEYIPLDSDTVSTRSGAIFTKAYQRMVLDVATLNNLEIFLNGTNGSTEGTLLERVDTCHTPFG  
 KRLLKQWLCAPLCNHYAINDRLDAIEDLMVVPDKISEVVELLKKLPDLERLLSKIHNVSPLKSNHPDS  
 RAIMYEETTSYKKKIIDFLSALEGFKVMCKIIGIMEEVADGFKSKILKQVISLQTKNPEGRFPDLTVELN  
 RWDTAFDHEKARKTGLITPKAGFSDYDQALADIRENEQSLLEYLEKQRNRIGCRTIVYWGIGRNRQLE  
 IPENFTTRNLPEEYELKSTKKGCKRYWTKTIEKLANLINAERRDVSLKDCMRRLFYNFDKNYKDWQSA  
 VECIAVLVLLCLANYSRGGDGMPCRPVILLPEDTPPFLELKSRHPCITKTFFGDDFIPNDILIGCEEE  
 EQENGKAYCVLVTGPNMGGKSTLMRQAGLLAVMAQMGCYVPAEVCRLTPIDRVFTRLGASDRIMSGESTF  
 FVELSETASILMHATAHSLVLVDELGRGTATFDGTAIANAVVKELAEIKCRTLFSTHYHSLVEDYS

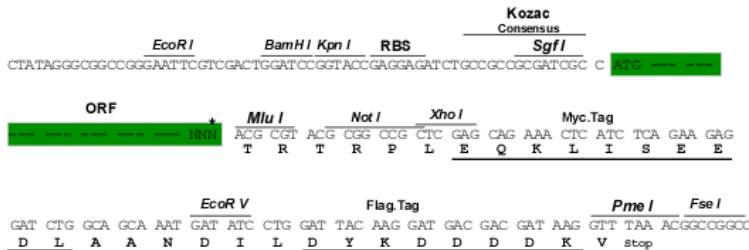
SGPTRRRLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

**SgfI-MluI**

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

<b>OTI Disclaimer:</b>	<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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> 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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	<p>This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.</p>
<b>Components:</b>	<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>
<b>RefSeq:</b>	<p><a href="#">NP_000170</a></p>
<b>RefSeq Size:</b>	<p>3771 bp</p>
<b>RefSeq ORF:</b>	<p>4083 bp</p>
<b>Locus ID:</b>	<p>2956</p>
<b>Cytogenetics:</b>	<p>2p16.3</p>
<b>Domains:</b>	<p>PWWP, MutS_V, MutS_I, MutS_III, MutS_II, MutS_IV</p>
<b>Protein Families:</b>	<p>Druggable Genome, Stem cell - Pluripotency</p>
<b>Protein Pathways:</b>	<p>Colorectal cancer, Mismatch repair, Pathways in cancer</p>
<b>MW:</b>	<p>138.3 kDa</p>
<b>Gene Summary:</b>	<p>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]</p>