

## Product datasheet for **RC401390**

### 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:	S144I
Affected Codon#:	144
Affected NT#:	431
Nucleotide Mutation:	MSH6 Mutant (S144I), 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:	4080 bp
Restriction Sites:	SgfI-MluI
ORF Nucleotide Sequence:	>RC401390 representing NM_000179 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGTGCGGACAGAGCACCTGTACAGCTTCTTCCCAAGTCTCCGGCGCTGAGTGATGCCAACAAGGCCT  
CGGCCAGGGCCTCACGCGAAGGCGGCCGTGCCGCCGCTGCCCGGGGCCTCTCCTTCCCGAGGCGGGGA  
TGCGGCCTGGAGCGAGGCTGGGCCTGGGCCAGGCCCTTGGCGCGCTCCGCGTACCGCCCAAGGCGAAG  
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ATTTGGTTTGGCCAAGATGGAGGGTTACCCTGGTGGCCTTGTCTGGTTTACAACCACCCCTTTGATGG  
AACATTATCCGCGAGAAAGGAAATCAGTCCGTGTTTCATGTACAGTTTTTTGATGACAGCCCAACAAGG  
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ATTTTACAGTGCAAAGCCTGAAATACTGAGAGCAATGCAACGTGCAGATGAAGCCTTAAATAAAGACAA  
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 TCTCCCAGAGGAAGTTATTCAAAGGGACATAGAAAAGCAAGAGAATTTGAGAAGATGAATCAGTCACTA  
 CGATTATTTGGGAAGTTTGCCTGGCTAGTGAAGGTCAACTGTAGATGCTGAAGCTGTCATAAATGTC  
 TGACTTTGATTAAGGAATTA

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:**

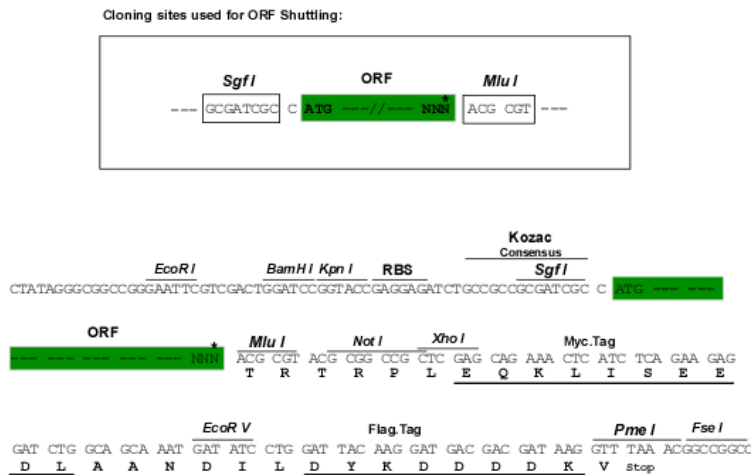
>RC401390 representing NM\_000179  
Red=Cloning site Green=Tags(s)

MSRQSTLYSFFPKSPALSDANKASARASREGGAAAAPGASPSPGDDAAWSEAGPGRPLARSASPPKAK  
NLNGGLRRSVAPAAPTSCDFSPGDLVWAKMEGYPWWPCLVYNHPFDGTFIREKGKSVRVHVQFFDDSPTR  
GWVIKRLLLKPYTGSKSKEAQKGGHFYSAPKEILRAMQRADEALNKDKIKRLELAVCDPESEPEEEEEMEV  
GTTYVTDKSEEDNEIESEEEVQPKTQGSRRSSRIKRRVISEDSEDIIGSDVEFKPDTKEEGSSDEISS  
GVGDSESEGLNSPVKVARKRKRMVTGNGLKRRSSRKETPSATKQATSISSEKNTLRAFSAQNSESQA  
HVSGGGDDSSRPTVWYHETLEWLKEEKRRDEHRRRDPDFDASTLYVPEDFLNSCTPGMRKWWQIKSQN  
FDLVICYKVGKFYELYHMDALIGVSELGLVFMKGNWAHSGFPEIAFGYSDSLVQKGYKVARVEQTETPE  
MMEARCRKMAHISKYDRVVRREICRIITKGTQTYSVLEGDPSENYSKYLKSLKEKEEDSSGHTRAYGVCF  
VDTSLGKFFIGQFSDDRHCSTRFRTLVAHYPPVQVLFKGNL SKETKTKILKSSLSLQELIPGSQFWD  
SKTLRLLLEEEYFREKLSDGIGVMLPQVLKGMTSESDSIGLTPGEKSELALSALGGCVFYLLKCLIDQEL  
LSMANFEEYIPLDSDTVSTTRSGAIFTKAYQRMVLDATLNNLEIFLNGTNGSTEGTLLELVDTCHTPF  
KRLKQWLCAPLCNHYAINDRLDAIEDLMVVPDKISEVVELLKKLPDLERLLSKIHNVSPLKSNHPDS  
RAIMYEETTSKKKIIDFLSALEGFKVMCKIIGIMEEVADGFKSKILKQVISLQTKNPEGRFPDLTVELN  
RWDTAFDHEKARKTGLITPKAGFSDYDQALADIRENEQSLLYLEKQRNRIGCRTIVYWGIGRNRVQLE  
IPENFTTRNLPEEYELKSTKKGCKRYWTKTIEKLANLANAEERRDVSLKDCMRRLFYNFDKNYKDWQSA  
VECIAVLVLLCLANYSRGGDGPMPRPVILLPEDTPPFLELKGSRHPCITKTFFGDDFIPNDILIGCEEE  
EQENGKAYCVLVTGPNMGGKSTLMRQAGLLAVMAQMGCYVPAEVCRLTPIDRVFTRLGASDRIMSGESTF  
FVELSETASILMHATAHSLVLDLGRGTATFDGTAIANAVVKELAEIKCRTLFSTHYHSLVEDYSQNV  
AVRLGHMACMVENECEDPSQETITFLYKFKGACPKSYGFNAARLANLPEEVIQKGRHKAREFEKMNQSL  
RLFREVLASERSTVDAEAVHKLLTLIKEL

SGPTRRRLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


\* 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>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>RefSeq:</b>	<a href="#">NP_000170</a>
<b>RefSeq Size:</b>	4080 bp
<b>RefSeq ORF:</b>	4083 bp
<b>Locus ID:</b>	2956
<b>Cytogenetics:</b>	2p16.3
<b>Domains:</b>	PWWP, MutS_V, MutS_I, MutS_III, MutS_II, MutS_IV
<b>Protein Families:</b>	Druggable Genome, Stem cell - Pluripotency
<b>Protein Pathways:</b>	Colorectal cancer, Mismatch repair, Pathways in cancer
<b>MW:</b>	149.6 kDa
<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>