

Product datasheet for **RC401409**

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:	R482X
Affected Codon#:	482
Affected NT#:	1444
Nucleotide Mutation:	MSH6 Mutant (R482X), 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:	1443 bp
Restriction Sites:	SgfI-MluI



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ORF Nucleotide Sequence:

>RC401409 representing NM_000179
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCGCGACAGAGCACCTGTACAGCTTCTTCCCAAGTCTCCGGCGCTGAGTGATGCCAACAAAGGCCT
 CGGCCAGGGCCTCACGCGAAGGCGGCCGTGCCGCGCTGCCCGGGGCTCTCCTTCCCAAGCGGGGA
 TCGCGCCTGGAGCGAGGCTGGGCCTGGGCCAGGCCCTTGGCGCGCTCCGCGTCAACGCCCAAGCGAAG
 AACCTCAACGGAGGGCTGCGGAGATCGGTAGCGCTGCTGCCCCACCAGTTGTGACTTCTCACCAGGAG
 ATTTGGTTTGGGCAAGATGGAGGGTTACCCCTGGTGGCCTTGTCTGGTTTACAACCACCCCTTTGATGG
 AACATTCATCCGCGAGAAAGGAAATCAGTCCGTGTTTACATGTACAGTTTTTTGATGACAGCCCAACAAGG
 GGCTGGGTTAGCAAAGGCTTTAAAGCCATATACAGGTTCAAATCAAAGGAAGCCAGAAGGGAGGTC
 ATTTTACAGTGCAAAGCCTGAAATACTGAGAGCAATGCAACGTGCAGATGAAGCCTTAAATAAAGACAA
 GATTAAGAGGCTTGAATTGGCAGTTTGTGATGAGCCCTCAGAGCCAGAAGAGGAAGAAGAGATGGAGGTA
 GGCACAACCTAGTAACAGATAAGAGTGAAGAAGATAATGAAATTGAGAGTGAAGAGGAAGTACAGCCTA
 AGACACAGGATCTAGGCGAAGTAGCCGCAAAATAAAAAACGAAGGGTCATATCAGATTCTGAGAGTGA
 CATTGGTGGCTCTGATGTGGAATTTAAGCCAGACACTAAGGAGGAAGGAAGCAGTGATGAAATAAGCAGT
 GGAGTGGGGGATAGTGAGAGTGAAGGCCTGAACAGCCCTGTCAAAGTTGCTCGAAAGCGGAAGAGAATGG
 TGACTGGAAATGGCTCTTTAAAAGGAAAAGCTCTAGGAAGGAAACGCCCTCAGCCACCAAAACAAGCAAC
 TAGCATTTTCATCAGAAACCAAGAATACTTTGAGAGCTTCTCTGCCCTCAAATTTCTGAATCCCAAGCC
 CACGTTAGTGGAGGTGGTATGACAGTAGTCCCTACTGTTTGGTATCATGAACTTTAGAATGGCTTA
 AGGAGGAAAAGAGAAGAGATGAGCACAGGAGGAGGCCTGATCACCCGATTTTGTGATGACTTACACTCTA
 TGTGCCTGAGGATTTCTCAATTCTTGTACTCCTGGGATGAGGAAGTGGTGGCAGATTAAGTCTCAGAAC
 TTTGATCTGTCTGTTACAAGGTGGGAAAATTTATGAGCTGTACCACATGGATGCTCTTATTGGAG
 TCAGTGAAGTGGGGCTGGTATTCATGAAAGGCAACTGGGCCATTCTGGCTTTCTGAAATTGCATTTGG
 CCGTTATTCAGATTCCCTGGTGCAGAAGGGCTATAAAGTAGCA

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

Protein Sequence:

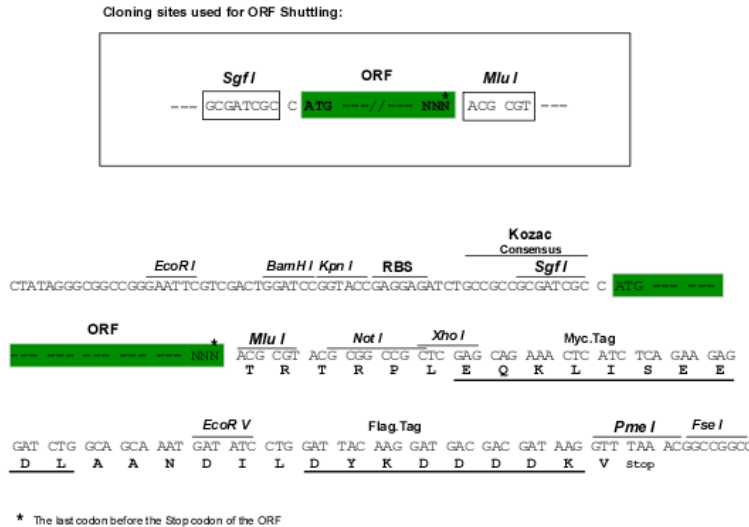
>RC401409 representing NM_000179
 Red=Cloning site Green=Tags(s)

MSRQSTLYSFFPKSPALSDANKASARASREGGRAAAAAPGASPSPGGDAWSEAGPGRPLARSASPPKAK
 NLNGGLRRSVAPAAPTSCDFSPGDLVWAKMEGYPWWPCLVYNHPFDGTFIREKGSVRVHVQFFDDSPTR
 GWYSKRLLPYTGSKSKEAQKGGHFYSAKPEILRAMQRADEALNKDKIKRELAVCDEPSEPEEEEEEMEV
 GTTYVTDKSEEDNEIESEEEVQPKTQGSRRSSRIKRRVSDSESDIGGSDVEFKPDTKEEGSSDEISS
 GVGDSSEGLNSPVKVARKRKRMVTGNLSLKRKSSRKETPSATKQATSISSSETKNLRAFSAQNSESQA
 HVSGGGDDSSRPTVWYHETLEWLKEEKRRDEHRRRPHDPFDASTLYVPEDFLNSCTPGMRKWWQIKSQN
 FDLVICYKVGKFYELYHMDALIGVSELGLVFMKGNWAHSGFPEIAFGRYSDSLVQKGYKVA

SGP**TRTRRLEQKLI**SEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

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 clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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).

RefSeq:

[NP_000170](#)

RefSeq Size:

1443 bp

RefSeq ORF:

4083 bp

Locus ID:

2956

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

MW: 52.9 kDa

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]