

Product datasheet for **RC202469**

MSH6 (NM_000179) Human Tagged ORF Clone

Product data:

| | |
|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | MSH6 (NM_000179) Human Tagged ORF Clone |
| Tag: | Myc-DDK |
| Symbol: | MSH6 |
| Synonyms: | GTBP; GTMBP; HNPCC5; HSAP; MMRC5; p160 |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |
| ORF Nucleotide Sequence: | >RC202469 representing NM_000179 Red=Cloning site Blue=ORF Green=Tags(s) |

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGTCGGACAGAGCACCTGTACAGCTTCTCCCAAGTCTCCGGCGCTGAGTGATGCCAACAAAGGCCT
CGGCCAGGGCCTCACGCGAAGGCGGCCGTGCCCGCTGCCCGGGCCCTCTCTTCCCGAGCGGGGA
TGCGGCTGGAGCGAGGCTGGGCTGGGCCAGGCCCTGGCGCATCCGCGTACCGCCCAAGCGAAG
AACCTCAACGGAGGGCTGCGGAGATCGGTAGCGCTGCTGCCCCACCAGTTGTGACTTCTACCGGGAG
ATTTGGTTTGGGCAAGATGGAGGTTACCCCTGGTGGCCTTGTCTGGTTTACAACCACCCCTTTGATGG
AACATTCATCCGCGAGAAAGGAAATCAGTCCGTGTTTATGTACAGTTTTTGTGATGACAGCCCAACAAGG
GGCTGGTTAGCAAAAGGCTTTAAAGCCATATACAGGTTCAAAATCAAAGGAAGCCAGAAAGGGAGGTC
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GATTAAGAGGCTTGAATTGGCAGTTTGTGATGAGCCCTCAGAGCCAGAAGAGGAAGAAGAGATGGAGGTA
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AGACACAAGGATCTAGGCGAAGTAGCCGCAAAATAAAAAACGAAGGGTCATATCAGATTCTGAGAGTGA
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TGACTTTGATTAAGGAATTA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGAT AAGGTTTAA

Protein Sequence: >RC202469 representing NM_000179
 Red=Cloning site Green=Tags(s)

MSRQSTLYSFFPKSPALSDANKASARASREGGRAAAAPGASPSPGGDAAWSEAGPGRPLARSASPPKAK
 NLNGGLRRSVAPAAPTSCDFSPGDLVWAKMEGYPWWPCLVYNHPFDGTFIREKGSVRVHVQFFDDSPTR
 GWVSKRLLKPYTGSKSKEAQKGGHFYSAKPEILRAMQRADEALNKDKIKRLELAVCDEPSEPEEEEEEMEV
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 GVG DSESEGLNSPVKVARKRMTGNSLKRKSSRKETPSATKQATSISETKNTLRAFSAQNSESQA
 HVSGGGDDSSRPTVWYHETLEWLKEEKRRDEHRRRDPDHPDFDASTLYVPEDFLNSCTPGMRKWWQIKSQN
 FDLVICYKVGKFYELYHMDALIGVSELGLVFMKGNWAHSGFPEIAFGRYSDSLVQKGYKVARVEQTETPE
 MMEARCRKMAHISKYDRVVRREICRIITKGTQYVLEGDPSENYSKYLLSLKEKEEDSSGHTRAYGVCF
 VDTSLGKFFIGQFSDRHCSRFRTLVAHYPPVQVLFKGNLSKETKTILKSSLSLQEGIPGSQFWD
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 KRLLKQWLCAPLCNHYAINDRLDAIEDLMVVPDKISEVELLKKLPDLERLLSKIHNVSPLKSNHPDS
 RAIMYEETTSYKKIIDFLSALEGFKVMCKIIGIMEEVADGFKSKILKQVLSLQTKNPEGRFPDLTVELN
 RWDTAFDHEKARKTGLITPKAGFDSYDQALADIRENEQSLEYLEKQRNRIGCRTIVYWGIGRNRVQLE
 IPENFTTRNLPEEYELKSTKKGCKRYWTKTIEKLANLANAEERDVSLKDCMRRLFYNFDKNYKDWQSA
 VECIAVLVLLCLANYSRGGDGMCRPVILLPEDTPPFLELKGSRHPCITKTFFGDDFIPNDILIGCEEE
 EQENGKAYCVLVTGPNMGGKSTLMRQAGLLAVMAQMGCVPAEVCRLTPIDRVFTRLGASDRIMSGESTF
 FVELSETASILMHATAHSLVLDLGRGTATFDGTAIANAVVKELAEIKCRTLFSTHYHSLVEDYSQNV
 AVR LGHMACMVENECEDPSQETITFLYKFIKGACPKSYGFNAARLANLPEEVIQKGRKAREFEKMNQSL
 RLFREVCLASERSTVDAEAVHKLLTLIKEL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:



ACCN: NM_000179

ORF Size: 4080 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](#)

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).

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_000179.3](#)

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

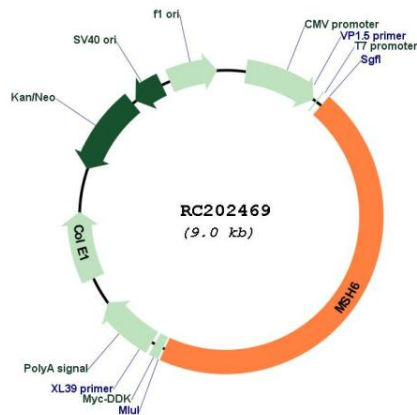
Protein Families: Druggable Genome, Stem cell - Pluripotency

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

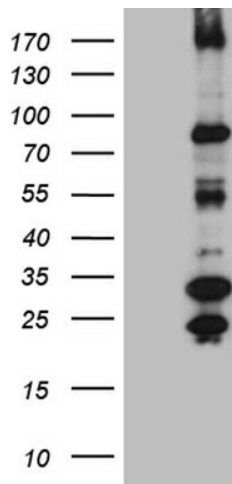
MW: 152.6 kDa

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]

Product images:


Circular map for RC202469



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY MSH6 (Cat# RC202469, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MSH6 (Cat# [TA807929])(1:2000).