

Product datasheet for **RC401771**

MSH2 (NM_000251) Human Mutant ORF Clone

Product data:

Product Type:	Mutant ORF Clones
Product Name:	MSH2 (NM_000251) Human Mutant ORF Clone
Mutation Description:	K334X
Affected Codon#:	334
Affected NT#:	1000
Nucleotide Mutation:	MSH2 Mutant (K334X), Myc-DDK-tagged ORF clone of Homo sapiens mutS homolog 2, colon cancer, nonpolyposis type 1 (E. coli) (MSH2) as transfection-ready DNA
Effect:	Colorectal cancer, non-polyposis
Symbol:	MSH2
Synonyms:	COCA1; FCC1; hMSH2; HNPCC; HNPCC1; LCFS2; MMRCS2
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_000251
ORF Size:	999 bp
Restriction Sites:	Sgfl-MluI



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ORF Nucleotide
Sequence:

>RC401771 representing NM_000251
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCGGTGCAGCCGAAGGAGACGCTGCAGTTGGAGAGCGCGCCGAGGTCGGCTTCGTGCGCTTCTTTC
AGGGCATGCCGAGAAGCCGACCACCACAGTGCCTTTTCGACCGGGGCGACTTCTATACGGCGCACGG
CGAGGACGCGCTGCTGGCCGCCGGGAGGTGTTCAAGACCCAGGGGGTATCAAGTACATGGGGCCGCA
GGAGCAAAGAATCTGCAGAGTGTGTGCTTAGTAAATGAATTTTGAATCTTTTGTAAAAGATCTTCTTC
TGGTTCGTAGTATAGAGTTGAAGTTTATAAGAATAGAGCTGAAATAAGGCATCCAAGGAGAATGATTG
GTATTTGGCATATAAGGCTTCTCCTGGCAATCTCTCAGTTTGAAGACATTCTCTTTGGTAACAATGAT
ATGTCAGCTTCCATTGGTGTGTGGGTGTTAAATGTCCGAGTTGATGGCCAGAGACAGGTTGGAGTTG
GGTATGTGGATTCCATACAGAGGAACTAGGACTGTGTGAATTCCTGATAATGATCAGTTCTCCAATCT
TGAGGCTCTCCTCATCCAGATTGACCAAAGGAATGTGTTTTACCCGGAGGAGAGACTGCTGGAGACATG
GGGAAACTGAGACAGATAATTCAAAGAGGAGGAATTCGATCACAGAAAGAAAAAAGCTGACTTTTCCA
CAAAGACATTTATCAGGACCTCAACCGTTGTTGAAAGGCAAAAAGGGAGAGCAGATGAATAGTGTGT
ATTGCCAGAAATGGAGAATCAGGTTGCAGTTTCATCACTGTCTGCGGTAATCAAGTTTTTGAAGCTTTA
TCAGATGATTCCAACCTTTGGACAGTTTGAAGTACTACTTTTACTTCAGCCAGTATATGAAATTTGGATA
TTGACAGTCAAGCCCTTAACCTTTTTCAGGTTCTGTTGAAGATACCACTGGCTCTCAGTCTCTGGC
TGCTTGTGAATAAGTGT

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
TGGATTACAAGGATGACGACGA TAAGGTTTAA

Protein Sequence:

>RC401771 representing NM_000251
Red=Cloning site Green=Tags(s)

MAVQPKETLQLESAAEVGFVRFVQGMPEKPTTTRVRLFDRGDFYTAHGEDALLAAREVFKTQGVIKYMGPA
GAKNLQSVVLSKMNFEFVKDLLVLRQYRVEVYKNRAGNKASKENDWYLAYKASPGNLSQFEDILFGNND
MSASIGVVGVKMSAVDGRQVGVGYVDSIQRKLGCEFPDNDQFSNLEALLIQIGPKECVLPGETAGDM
GKLRQIIQRGGILITERKKADFSTKDIYQDLNRLLKGGKQMNSAVLPENQVAVSSLSAVIKFLELL
SDDSNFGQFELTTFDFSQYMKLDIAAVRALNLFQGSVEDTTGSQSLAALLNKC

SGPTRRRRLEQKLI 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_000242](#)

RefSeq Size:

999 bp

RefSeq ORF:

2805 bp

Locus ID:

4436

Cytogenetics:

2p21-p16.3

Domains:

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: 36.6 kDa

Gene Summary: This locus is frequently mutated in hereditary nonpolyposis colon cancer (HNPCC). When cloned, it was discovered to be a human homolog of the E. coli mismatch repair gene mutS, consistent with the characteristic alterations in microsatellite sequences (RER+ phenotype) found in HNPCC. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Apr 2012]