

## Product datasheet for RC401703

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OriGene Technologies, Inc.

# 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: E28X
Affected Codon#: 28

Affected NT#: 82

Nucleotide Mutation: MSH2 Mutant (E28X), Myc-DDK-tagged ORF clone of Homo sapiens mutS homolog 2, colon

cancer, nonpolyposis type 1 (E. coli) (MSH2) as transfection-ready DNA

**Effect:** Colorel ner, non-polyposis

Symbol: MSH2

Synonyms: COCA1; FCC1; hMSH2; HNPCC; HNPCC1; LCFS2; MMRCS2

E. coli Selection: Kanamycin (25 ug/mL)

Mammalian Cell Neomycin

Selection:

**Vector:** pCMV6-Entry (PS100001)

 Tag:
 Myc-DDK

 ACCN:
 NM\_000251

ORF Size: 81 bp
Restriction Sites: Sgfl-Mlul

ORF Nucleotide >RC401703 representing NM\_000251

Sequence: Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC

GCCGCGATCGCC

ATGGCGGTGCAGCCGAAGGAGACGCTGCAGTTGGAGAGCGCGGCCGAGGTCGGCTTCGTGCGCTTCTTTC

AGGGCATGCCG

**AGCGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGATCTGGCAGCAAATGATATCC

TGGATTACAAGGATGACGACGA TAAGGTTTAA



#### MSH2 (NM\_000251) Human Mutant ORF Clone - RC401703

Protein Sequence: >RC401703 representing NM\_000251

Red=Cloning site Green=Tags(s)

MAVQPKETLQLESAAEVGFVRFFQGMP

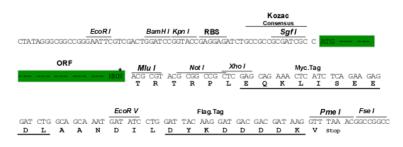
**SGPTRTRRL**EQKLISEEDLAANDILDYKDDDDK**V** 

**Restriction Sites:** 

Sgfl-Mlul

**Cloning Scheme:** 





<sup>\*</sup> The last codon before the Stop codon of the ORF

**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 <a href="mailto:customport@origene.com">customport@origene.com</a> 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. <u>More info</u>

**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: <u>NP 000242</u>

RefSeq Size: 81 bp RefSeq ORF: 2805 bp



### MSH2 (NM\_000251) Human Mutant ORF Clone - RC401703

**Locus ID:** 4436

**Cytogenetics:** 2p21-p16.3

**Domains:** MutS\_V, MutS\_I, MutS\_II, MutS\_IV

**Protein Families:** Druggable Genome, Stem cell - Pluripotency

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

MW: 3 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]