

Product datasheet for RC401526

9620 Medical Center Drive, Ste 200 Rockville, MD 20850, US Phone: +1-888-267-4436 https://www.origene.com techsupport@origene.com EU: info-de@origene.com

CN: techsupport@origene.cn

OriGene Technologies, Inc.

MLH1 (NM_000249) Human Mutant ORF Clone

Product data:

Product Type: Mutant ORF Clones

Product Name: MLH1 (NM_000249) Human Mutant ORF Clone

Mutation Description: S131X

Affected Codon#: 131

Affected NT#: 392

Nucleotide Mutation: MLH1 Mutant (S131X), Myc-DDK-tagged ORF clone of Homo sapiens mutL homolog 1, colon

cancer, nonpolyposis type 2 (E. coli) (MLH1), transcript variant 1 as transfection-ready DNA

Effect: Colorel ner, non-polyposis

Symbol: MLH1

Synonyms: COCA2; FCC2; hMLH1; HNPCC; HNPCC2; MMRCS1

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

Mammalian Cell Neomycin

Selection:

Vector: pCMV6-Entry (PS100001)

Tag: Myc-DDK
ACCN: NM 000249

ORF Size: 390 bp
Restriction Sites: Sgfl-Mlul

MLH1 (NM_000249) Human Mutant ORF Clone - RC401526

ORF Nucleotide Sequence:

>RC401526 representing NM_000249

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

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC

ATGTCGTTCGTGGCAGGGGTTATTCGGCGGCTGGACGAGACAGTGGTGAACCGCATCGCGGCGGGGGAAG
TTATCCAGCGGCCAGCTAATGCTATCAAAGAGATGATTGAGAACTGTTTAGATGCAAAATCCACAAGTAT
TCAAGTGATTGTTAAAGAGGGAGGCCTGAAGTTGATTCAGATCCAAGACAATGGCACCGGGATCAGGAAA
GAAGATCTGGATATTGTATGTGAAAGGTTCACTACTAGTAAACTGCAGTCCTTTGAGGATTTACCAGTA
TTTCTACCTATGGCTTTCGAGGGTGAGGCTTTGGCCAGCATAAGCCATGTGGCTCATGTTACTATTACAAC
GAAAACAGCTGATGGAAAGTGTGCATACAGAGCAAGTTAC

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC TGGATTACAAGGATGACGACGA TAAGGTTTAA

Protein Sequence:

>RC401526 representing NM_000249
Red=Cloning site Green=Tags(s)

MSFVAGVIRRLDETVVNRIAAGEVIQRPANAIKEMIENCLDAKSTSIQVIVKEGGLKLIQIQDNGTGIRK EDLDIVCERFTTSKLQSFEDLASISTYGFRGEALASISHVAHVTITTKTADGKCAYRASY

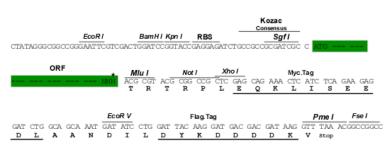
SGPTRTRRLEQKLISEEDLAANDILDYKDDDDK**V**

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:





^{*} The last codon before the Stop codon of the ORF

OTI Disclaimer:

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.



MLH1 (NM_000249) Human Mutant ORF Clone - RC401526

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 000240</u>

RefSeq Size:390 bpRefSeq ORF:2271 bpLocus ID:4292

Cytogenetics: 3p22.2

Domains: DNA_mis_repair, HATPase_c

Protein Families: Druggable Genome

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

MW: 14.3 kDa

Gene Summary: The protein encoded by this gene can heterodimerize with mismatch repair endonuclease

PMS2 to form MutL alpha, part of the DNA mismatch repair system. When MutL alpha is bound by MutS beta and some accessory proteins, the PMS2 subunit of MutL alpha introduces a single-strand break near DNA mismatches, providing an entry point for

exonuclease degradation. The encoded protein is also involved in DNA damage signaling and can heterodimerize with DNA mismatch repair protein MLH3 to form MutL gamma, which is involved in meiosis. This gene was identified as a locus frequently mutated in hereditary

nonpolyposis colon cancer (HNPCC). [provided by RefSeq, Aug 2017]