**OriGene Technologies, Inc.**
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

# Product datasheet for RC401488

## 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:** | E37X |
| **Affected Codon#:** | 37 |
| **Affected NT#:** | 109 |
| **Nucleotide Mutation:** | MLH1 Mutant (E37X), 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 Selection:** | Neomycin |
| **Vector:** | pCMV6-Entry (PS100001) |
| **Tag:** | Myc-DDK |
| **ACCN:** | NM_000249 |
| **ORF Size:** | 108 bp |
| **Restriction Sites:** | SgfI-MluI |
| **ORF Nucleotide Sequence:** | >RC401488 representing NM_000249<br>Red=Cloning site Blue=ORF Green=Tags(s)<br><br>TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC<br>GCCGCGATCGCC<br><br>ATGTCGTTCGTGGCAGGGGTTATTCGGCGGCTGGACGAGACAGTGGTGAACCGCATCGCGGCGGGGGAAG<br>TTATCCAGCGGCCAGCTAATGCTATCAAAGAGATGATT<br><br>AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC<br>TGGATTACAAGGATGACGACGA TAAGGTTTAA |



View online »

**Protein Sequence:**

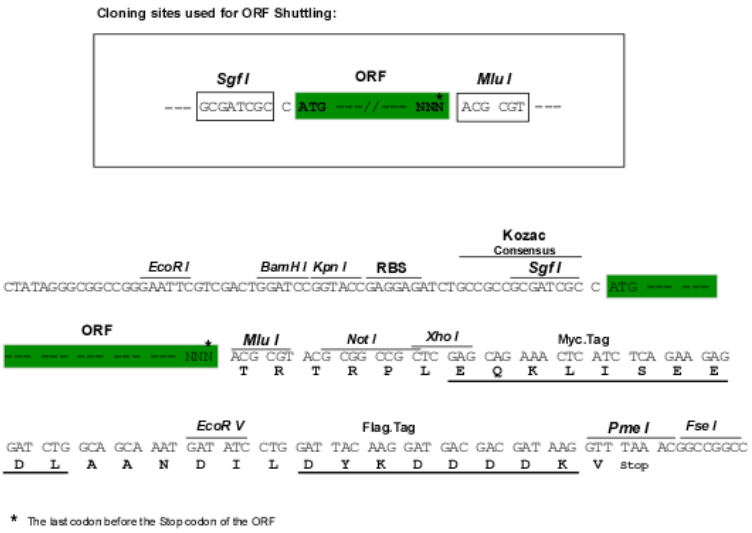
>RC401488 representing NM_000249
Red=Cloning site Green=Tags(s)

MSFVAGVIRRLDETVVNRIAAGEVIQRPANAIKEMI

SGPTRTRRLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**




**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. 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).

**Note:** Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

**RefSeq:** NP_000240

**RefSeq Size:** 108 bp

**RefSeq ORF:** 2271 bp

**Locus 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:** 4 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]