

# **Product datasheet for RC401512**

# OriGene Technologies, Inc.

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# 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: E102D
Affected Codon#: 102

Affected NT#: 306

Nucleotide Mutation: MLH1 Mutant (E102D), 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

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

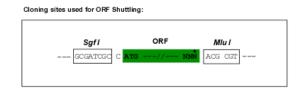
 ACCN:
 NM\_000249

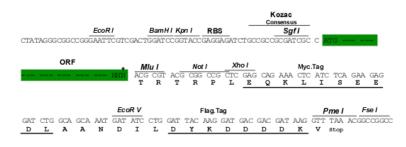
ORF Size: 2268 bp
Restriction Sites: Sgfl-Mlul
Restriction Sites: Sgfl-Mlul





### **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:customer.com">customer.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. 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 000240



# MLH1 (NM\_000249) Human Mutant ORF Clone - RC401512

RefSeq Size: 2268 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: 83.2 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]