

Product datasheet for **RC401633**

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:	E578G
Affected Codon#:	578
Affected NT#:	1733
Nucleotide Mutation:	MLH1 Mutant (E578G), 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:	Colorectal cancer, 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:	2268 bp
Restriction Sites:	SgfI-MluI



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**ORF Nucleotide
Sequence:**

>RC401633 representing NM_000249
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCGTTCTGTCGAGGGGTTATTCGGCGGCTGGACGAGACAGTGGTGAACCGCATCGCGCGGGGGAAG
 TTATCCAGCGGCCAGCTAATGCTATCAAGAGATGATTGAGAAGTGTAGATGCAAAATCCACAAGTAT
 TCAAGTGATTGTTAAAGAGGGAGGCCTGAAGTTGATTCAGATCCAAGACAATGGCACCGGGATCAGGAAA
 GAAGATCTGGATATTGTATGTGAAAGGTTCACTACTAGTAAACTGCAGTCCTTTGAGGATTTAGCCAGTA
 TTTCTACCTATGGCTTTGAGGTGAGGCTTTGGCCAGCATAAGCCATGTGGCTCATGTTACTATTACAAC
 GAAAACAGCTGATGAAAGTGTGCATACAGAGCAAGTACTCAGATGGAAAAGTAAAGCCCTCTCTAAA
 CCATGTGCTGGCAATCAAGGGACCCAGATCACGGTGGAGGACCTTTTTTACAACATAGCCACGAGGAGAA
 AAGCTTTAAAAATCCAAGTGAAGAATATGGGAAAATTTGGAAGTTGTTGGCAGGTATTCAGTACACAA
 TGCAGGCATTAGTTTCTCAGTTAAAAACAAGGAGAGACAGTAGCTGATGTTAGGACACTACCCAATGCC
 TCAACCGTGGACAATATTCGCTCCATCTTTGAAATGCTGTTAGTCGAGAAGTATAGAAATGGATGTG
 AGGATAAAACCTAGCCTTCAAATGAATGGTTACATATCCAATGCAAACTACTCAGTGAAGAAGTGCAT
 CTTCTTACTCTTCATCAACCATCGTCTGGTAGAATCAACTTCCTTGAGAAAAGCCATAGAAAACAGTGTAT
 GCAGCCTATTTGCCCAAAAACACACACCATTCTGTACCTCAGTTTAGAAAATCAGTCCCCAGAATGTGG
 ATGTTAATGTGCACCCCAAAAGCATGAAGTTCACTTCCTGCACGAGGAGAGCATCCTGGAGCGGGTGCA
 GCAGCAGATCGAGAGCAAGTCTCTGGGCTCCAATTCTCCAGGATGTACTTCACCCAGACTTTGTACCA
 GGACTTGCTGGCCCTCTGGGGAGATGGTTAAATCCACAACAAGTCTGACCTCGTCTTCTACTTCTGGAA
 GTAGTGATAAGGTCTATGCCACCAGATGGTTCGTACAGATTCGCGGGAACAGAAGCTTGATGCATTTCT
 GCAGCCTCTGAGCAAACCCCTGTCCAGTCAGCCCAAGCCATTGTCACAGAGGATAAGACAGATATTTCT
 AGTGGCAGGGCTAGGCAGCAAGATGAGGAGATGCTTGAACCTCCAGCCCTGCTGAAGTGGCTGCCAAAA
 ATCAGAGCTTGGAGGGGGATACAACAAGGGGACTTCAGAAAATGTGAGAGAAGAGAGGACCTACTCCAG
 CAACCCAGAAAAGAGACATCGGGAAGATTCTGATGTGGAATGGTGAAGATGATCCCGAAAAGGAAATG
 ACTGCAGCTTGTACCCCGGAGAAGGATCATTAACTCACTAGTGTGTTTGTAGTCTCCAGGAAGAAATTA
 ATGAGCAGGGACATGAGGTTCTCCGGGAGATGTTGCATAACCACTCCTTCGTGGGCTGTGTGAATCCTCA
 GTGGCCCTTGGCACAGCATCAAACCAAGTTATACCTTCTCAACACCACCAAGCTTAGTGAAGAACTGTT
 TACCAGATACTCATTTATGATTTTGCCAAATTTGGTGTCTCAGGTTATCGGGCCAGCACCGCTCTTTG
 ACCTTGCCATGCTTGCTTAGATAGTCCAGAGAGTGGCTGGACAGAGGAAGATGGTCCCAAGAAGGACT
 TGCTGAATACATTGTTGAGTTTCTGAAGAAGAAGGCTGAGATGCTTCGAGACTATTTCTCTTTGAAAT
 GATGAGGAAGGGAACCTGATTGGATTACCCCTTCTGATTGACAACTATGTGCCCTTTGGAGGGACTGC
 CTATCTTCACTTCTGACTAGCCACTGAGGTGAATTGGGACGAAGAAAAGGAATGTTTTGAAAGCCTCAG
 TAAAGAATGCGCTATGTTCTATCCATCCGGAAGCAGTACATATCTGAGGAGTCGACCCTCTCAGGCCAG
 CAGAGTGAAGTGCCTGGCTCCATTCAAACCTCTGGAAGTGGACTGTGGAACACATTGTCTATAAAGCCT
 TGGCCTCACACATTCTGCCTCTAAACATTTACAGAAGATGGAATATCCTGCAGCTTGCTAACCTGCC
 TGATCTATACAAAGTCTTTGAGAGGTGT

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

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
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]