

Product datasheet for **RC401484**

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:	A29S
Affected Codon#:	29
Affected NT#:	85
Nucleotide Mutation:	MLH1 Mutant (A29S), 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


[View online »](#)

**ORF Nucleotide
Sequence:**

>RC401484 representing NM_000249
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCGTTCTGTCGAGGGGTTATTTCGGCGGCTGGACGAGACAGTGGTGAACCGCATCGCGCGGGGGAAG
 TTATCCAGCGGCCATCTAATGCTATCAAAGAGATGATTGAGAAGTGTGTTAGATGCAAAATCCACAAGTAT
 TCAAGTGATTGTTAAAGAGGGAGGCCTGAAGTTGATTGATCCAAAGACAATGGCACCGGGATCAGGAAA
 GAAGATCTGGATATTGTATGTGAAAGGTTCACTACTAGTAACTGCAGTCCTTTGAGGATTTAGCCAGTA
 TTTCTACCTATGGCTTTCGAGGTGAGGCTTTGGCCAGCATAAGCCATGTGGCTCATGTTACTATTACAAC
 GAAAACAGCTGATGAAAGTGTGCATACAGAGCAAGTTACTCAGATGGAAAAGTAAAGCCCTCTCTAA
 CCATGTGCTGGCAATCAAGGGACCCAGATCACGGTGGAGGACCTTTTTTACAACATAGCCACGAGGAGAA
 AAGCTTTAAAAAATCAAGTGAAGAATATGGGAAAAATTTGGAAGTTGTTGGCAGGTATTCAGTACAAA
 TGCAGGCATTAGTTTCTCAGTAAAAAACAAGGAGAGACAGTAGCTGATGTTAGGACACTACCCAATGCC
 TCAACCGTGGACAATATTCGCTCCATCTTTGAAATGCTGTTAGTCGAGAACTGATAGAAATGGATGTG
 AGGATAAAACCTAGCCTTCAAATGAATGGTTACATATCCAATGCAAACTACTCAGTGAAGAAGTGCAT
 CTTCTTACTCTTCATCAACCATCGTCTGGTAGAATCAACTTCCTTGAGAAAAGCCATAGAAAACAGTGTAT
 GCAGCCTATTTGCCCAAAACACACACCCATTCTGTACCTCAGTTTAGAAATCAGTCCCCAGAATGTGG
 ATGTTAATGTGACCCCAAAAGCATGAAGTTCACCTCCTGCACGAGGAGAGCATCCTGGAGCGGGTGCA
 GCAGCACATCGAGAGCAAGCTCCTGGGCTCCAATTCTCCAGGATGTACTTCACCCAGACTTTGCTACCA
 GGACTTGCTGGCCCTCTGGGGAGATGGTTAAATCCACAACAAGTCTGACCTCGTCTTCTACTTCTGGAA
 GTAGTGATAAGGTCTATGCCCAACAGATGGTTCGTACAGATTCGCGGAACAGAAGCTTGATGCATTTCT
 GCAGCCTCTGAGCAAACCCCTGTCCAGTCAGCCCCAGGCCATTGTCACAGAGGATAAGACAGATATTTCT
 AGTGGCAGGGCTAGGCAGCAAGATGAGGAGATGCTTGAACCTCCAGCCCTGCTGAAGTGCTGCCAAAA
 ATCAGAGCTTGGAGGGGGATACAACAAGGGGACTTCAGAAATGTCAGAGAAGAGAGGACCTACTTCCAG
 CAACCCAGAAAGAGACATCGGGAAGATTCTGATGTGGAATGGTGGAAGATGATCCCGAAAGGAAATG
 ACTGCAGCTTGTAACCCCGGAGAAGGATCATTAACCTCACTAGTGTGTTGAGTCTCCAGGAAGAAATTA
 ATGAGCAGGGACATGAGGTTCTCCGGGAGATGTTGCATAACCACTCCTTCGTGGGCTGTGTGAATCCTCA
 GTGGGCCTTGGCACAGCATCAAACCAAGTTATACCTTCTCAACACCACCAAGCTTAGTGAAGAACTGTTT
 TACCAGATACTCATTTATGATTTTGCCAAATTTGGTGTCTCAGGTTATCGGAGCCAGCACCGCTCTTTG
 ACCTTGCCATGCTTGCTTAGATAGTCCAGAGAGTGGCTGGACAGAGGAAGATGGTCCCAAGAAAGGACT
 TGCTGAATACATTGTTGAGTTTCTGAAGAAGAAGGCTGAGATGCTTGCACTATTTCTCTTTGGAAAT
 GATGAGGAAGGGAACCTGATTGGATTACCCCTTCTGATTGACAACTATGTGCCCTTTGGAGGGACTGC
 CTATCTTCATTCTCGACTAGCCACTGAGGTGAATTGGGACGAAGAAAAGGAATGTTTTGAAAGCCTCAG
 TAAAGAATGCGCTATGTTCTATTCCATCCGGAAGCAGTACATATCTGAGGAGTCGACCCTCTCAGGCCAG
 CAGAGTGAAGTGCCTGGCTCATTCAAACCTCTGGAAGTGGACTGTGGAACACATTGTCTATAAAGCCT
 TGGCCTCACACATTCTGCCTCTAAACATTTACAGAAGATGGAATATCCTGCAGCTTGCTAACCTGCC
 TGATCTATACAAAGTCTTGAGAGGTGT

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGA TAAGTTTAA

Protein Sequence: >RC401484 representing NM_000249
 Red=Cloning site Green=Tags(s)

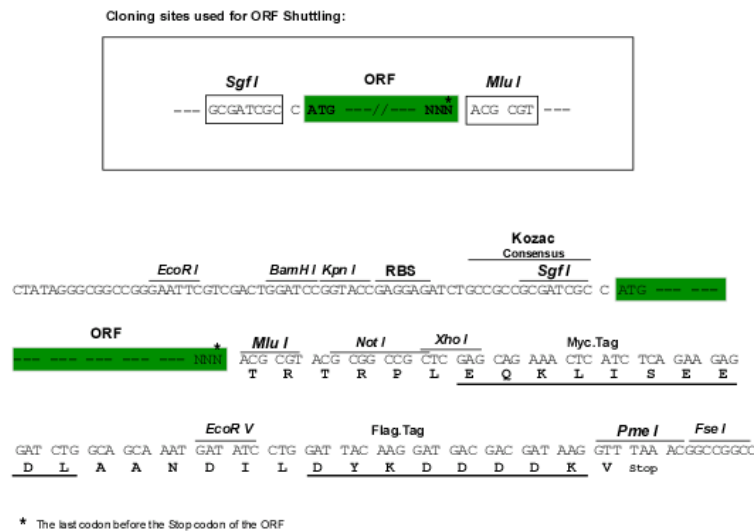
MSFVAGVIRRLDETVVNRIAAAGEVIQRPSNAIKEMIENCLDAKSTSIQVIVKEGGLKLIQIQDNGTGIRK
 EDLDIVCERFTTSKLQSFEDLASISTYGRGEALASISHVAHVTTITKTADGKAYRASYSKGKLKAPPK
 PCAGNQGTQITVEDLFYNIATRRKALKNPSEYKGILEVVGRYSVHNAGISFSVKKQGETVADVRTLPA
 STVDNIRSIFGNAVSRELIEIGCEDKTLAFKMNGYISNANYSVKKCIFLLFINHRLVESTSLRKAIETVY
 AAYLPKNTHPFLYLLEISPNQVNDVNVHPTKHEVHFLHEESILERVQQHIESKLLGSNSSRMYFTQTLLP
 GLAGPSGEMVKSTTSLTSSSTSGSSDKVYAHQMVRTDSREQKLDAFLQPLSKPLSSQPQAIPTEDKTDIS
 SGRARQDEEMLELPAPAEVAAKNQSLEGDTTKGTSEMSEKRGPTSSNPRKRHRESDVEMVEDDSRKEM
 TAACTPRRRIINLTSLVSLQEEINEQGHEVLREMLHNHSFVGCVPQWALAQHQTLYLLNTTKLSEELF
 YQILYDFANFVLRLEPAPLFDLAMLALDSPESGWTEEDGPKEGLAEYIVEFLKKAEMLDYFSLLEI
 DEEGLNLGLPLLDNYVPPLEGLPIFILRLATEVNWDEEKECFESLSKECAMFYISIRKQYISEESTLSGQ
 QSEVPGSIPNSWKWTVEHIVYKALRSHILPPKHFTEDGNILQLANLPDLYKVFERC

SGPTRRRLEQKLISEEDLAANDILDYKDDDDKV

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:	<u>NP_000240</u>
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]