

## Product datasheet for **RC233081**

### MLH1 (NM\_001258271) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	MLH1 (NM_001258271) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MLH1
Synonyms:	COCA2; FCC2; hMLH1; HNPCC; HNPCC2; MMRCS1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide  
Sequence:

>RC233081 representing NM\_001258271  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGTCGTTGTCGAGGGGTTATTCGGCGGCTGGACGAGACAGTGGTGAACCGCATCGCGCGGGGAAG  
TTATCCAGCGGCCAGCTAATGCTATCAAAGAGATGATTGAGAAGTGTAGATGCAAAATCCACAAGTAT  
TCAAGTGATTGTTAAAGAGGGAGCCTGAAGTTGATTCAGATCCAAGACAATGGCACCGGATCAGGAAA  
GAAGATCTGGATATTGTATGTGAAAGGTTCACTACTAGTAAACTGCAGTCCCTTGAGGATTTAGCCAGTA  
TTTCTACCTATGGCTTCGAGGTGAGGCTTTGGCCAGCATAAGCCATGTGGCTCATGTTACTATTACAAC  
GAAAACAGCTGATGAAAGTGTGCATACAGAGCAAGTTACTCAGATGGAAAAGTAAAGCCCTCTCTAAA  
CCATGTGCTGGCAATCAAGGGACCCAGATCACGGTGGAGGACCTTTTTTACAACATAGCCACGAGGAGAA  
AAGCTTTAAAAATCCAAGTGAAGAATATGGGAAAATTTTGAAGTTGTTGGCAGGTATTCAGTACACAA  
TGCAGGCATTAGTTTCTCAGTAAAAAACAAGGAGAGACAGTAGCTGATGTTAGGACACTACCCAATGCC  
TCAACCGTGGACAATATTCGCTCCATCTTTGAAATGCTGTTAGTCGAGAAGTATAGAAAATGGATGTG  
AGGATAAAACCTAGCCTTCAAAATGAATGGTTACATATCCAATGCAAACTACTCAGTGAAGAAGTGCAT  
CTTCTTACTCTTCATCAACCATCGTCTGGTAGAATCAACTTCTTGAGAAAAGCCATAGAAAACAGTGTAT  
GCAGCCTATTTGCCAAAAACACACACCCATTCTGTACCTCAGTTTAGAAAATCAGTCCCGAGAATGTGG  
ATGTTAATGTGCACCCCAAAAGCATGAAGTTCCTTCTGCACGAGGAGAGCATCTCGGAGCGGGTGC  
GCAGCAGATCGAGAGCAAGCTCCTGGGCTCCAATTCCTCCAGGATGTACTTACCCAGACTTTGCTACCA  
GGACTTGCTGGCCCTCTGGGGAGATGGTTAAATCCACAACAAGTCTGACCTCGTCTTCTACTTCTGGAA  
GTAGTGATAAGGCTATGCCACCAGATGGTTCGTACAGATTCCCGGGAACAGAAGCTTGATGCAATTTCT  
GCAGCCTCTGAGCAAACCCCTGTCCAGTCAGCCCAAGCCATTGTACAGAGGATAAGACAGATATTTCT  
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CAACCCAGAAAAGAGACATCGGGAAGATTCTGATGTGAAATGGTGAAGATGATCCCGAAAGGAAATG  
ACTGCAGCTTGTACCCCGGAGAAGGATCATTAACTCACTAGTGTGTTGAGTCTCCAGGAAGAAATTA  
ATGAGCAGGGACATGAGGTTCTCCGGGAGATGTTGCATAACCACTCCTTCGTGGGCTGTGTGAATCCTCA  
GTGGCCCTTGGCACAGCATCAAACCAAGTTATACCTTCTCAACACCACCAAGCTTAGTGAAGAAGTTC  
TACCAGATACTCATTATGATTTTGCCAAATTTGGTGTCTCAGGTTATCGGAGCCAGCACCGCTCTTTG  
ACCTTGCCATGCTTGCCCTTAGATAGTCCAGAGAGTGGCTGGACAGAGGAAGATGGTCCCAAGAAGGACT  
TGCTGAATACATTGTTGAGTTTCTGAAGAAGAAGGCTGAGATGCTTGCAGACTATTTCTCTTTGAAAT  
GATGAGAGTGAAGTGCCTGGCTCCATTCCAACCTCCTGGAAGTGGACTGTGGAACACATTGTCTATAAAG  
CCTTGGCTCACACATTGCTCCTAAACATTTACAGAAGATGGAAATATCCTGCAGCTTGCTAACCT  
GCCTGATCTATACAAAGTCTTTGAGAGGTGT

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC233081 representing NM\_001258271  
 Red=Cloning site Green=Tags(s)

MSFVAGVIRRLDETVVNRIAAGEVIQRPANA KEMIENCLDAKSTSIQVIVKEGGLKLIQIQDNGTGIRK  
 EDLDIVCERFTTSKLSQSFEDLASISTYGRGEALASISHVAHVITTTKTADGKCAYRASYS DGKLGKAPPK  
 PCAGNQGTQITVEDLFYNIATRRKALKNPSE EYGKILEVVGRYSVHNAGISFSVKKQGETVADVRTL PNA  
 STVDNIRSI FGNVRSRELI EIGCEDKTLAFKMNGYISNANYSVKKCIFLLFINHRLVESTSLRKA IETVY  
 AAYLPKNTHPFLYL SLEISPQNVDVNVHPTKHEVHFLHEESILERVQHQIESKLLGSNSSRMYFTQTLLP  
 GLAGPSGEMVKSTTSLTSSSTSGSSDKVYAHQMVRTDSREQKLD AFLQPLSKPLSSQPQAI VTE DKTDIS  
 SGRARQQDEEMLELPAPAEVA AKNQSL EGDTTKGTSEMSEKRGPTSSNPRKRHRESDVEMVEDDSRKEM  
 TAACTPRRRIINLTSVLSLQEEINEQGHEVLREMLHNHSFVGCVPQWALAQHQTKLYLLNTTKLSEELF  
 YQILYDFANFGVLR LSEPAPLFDLAMLALDSPESGWTEEDGPKEGLAEYIVEFLKKAEM LADYFSL E I  
 DESEVPGSIPNSWKWTV EHVIVYKALRSHILPPKHFTEDGNILQLANLPDLYKVFERC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

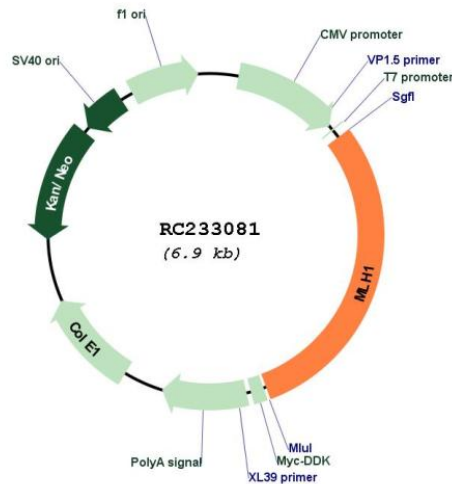
**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



## Plasmid Map:



ACCN: NM\_001258271

ORF Size: 2061 bp

**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).

**Reconstitution Method:**

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM\\_001258271.1](#), [NP\\_001245200.1](#)

RefSeq Size: 2471 bp

RefSeq ORF:	2064 bp
Locus ID:	4292
UniProt ID:	<a href="#">P40692</a>
Cytogenetics:	3p22.2
Protein Families:	Druggable Genome
Protein Pathways:	Colorectal cancer, Endometrial cancer, Mismatch repair, Pathways in cancer
MW:	77.2 kDa
Gene Summary:	<p>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]</p>