

## Product datasheet for **RC230403**

### MLH1 (NM\_001167617) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	MLH1 (NM_001167617) 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:

>RC230403 representing NM\_001167617  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGCGATCGCC

ATGGCTTCGAGGCTTTGGCCAGCATAAGCCATGTGGCTCATGTTACTATTACAACGAAAACAGCTGATG  
GAAAGTGTGCATACAGAGCAAGTTACTCAGATGGAAAACGAAAGCCCTCCTAAACCATGTGCTGGCAA  
TCAAGGGACCCAGATCACGGTGGAGGACCTTTTTTACAACATAGCCACGAGGAGAAAAGCTTTAAAAAAT  
CCAAGTGAAGAATATGGGAAAATTTTGGAAAGTTGTTGGCAGGTATTCAGTACACAATGCAGGCATTAGTT  
TCTCAGTTAAAAACAAGGAGAGACAGTAGCTGATGTTAGGACACTACCCAATGCCTCAACCGTGGACAA  
TATTCGCTCCATCTTTGGAAATGCTGTTAGTCGAGAACTGATAGAAATTGGATGTGAGGATAAAACCTA  
GCCTTCAAATGAATGGTTACATATCCAATGCAAACACTCAGTGAAGAAGTGCATCTTCTACTCTTCA  
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GCAAGCTCCTGGGCTCCAATTCCTCCAGGATGACTTCAACCAGACTTTGCTACCAGGACTTGCTGGCCC  
CTCTGGGGAGATGGTTAAATCCACAACAAGTCTGACCTCGTCTTCTACTTCTGGAAGTAGTGATAAGGTC  
TATGCCACCAGATGGTTCGTACAGATTCGCGGGAACAGAAGCTTGATGCATTTCTGCAGCCTCTGAGCA  
AACCCCTGTCCAGTCAGCCCCAGGCCATTGTACAGAGGATAAGACAGATATTTCTAGTGGCAGGGCTAG  
GCAGCAAGATGAGGAGATGCTTGAACCTCCAGCCCCTGCTGAAGTGGCTGCCAAAATCAGAGCTTGGAG  
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GACATCGGGAAGATTCTGATGTGGAATGGTGAAGATGATCCGAAAAGGAAATGACTGCAGCTTGATC  
CCCCCGGAGAAGGATCATTAACTCACTAGTGTGTTTGTAGTCTCCAGGAAGAAATTAATGAGCAGGGACAT  
GAGGTTCTCCGGGAGATGTTGCATAACCACTCCTTCGTGGGCTGTGTGAATCCTCAGTGGCCTTGGCAC  
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GCCTTAGATAGTCCAGAGAGTGGCTGGACAGAGGAAGATGGTCCCAAAGAAGGACTTGCTGAATACATTG  
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CCTGATTGGATTACCCCTTCTGATTGACAACTATGTGCCCTTTGGAGGGACTGCCTATCTTCATTCTT  
CGACTAGCCACTGAGGTGAATTTGGACGAAGAAAAGGAATGTTTTGAAAGCCTCAGTAAAGAATGCGCTA  
TGTTCTATTCCATCCGGAAGCAGTACATATCTGAGGAGTCGACCTCTCAGGCCAGCAGAGTGAAGTGCC  
TGGCTCCATTCAAACCTCCTGGAAGTGGACTGTGGAACACATTGTCTATAAAGCCTTGCGCTCACACATT  
CTGCCTCCTAAACATTTACAGAAGATGGAATATCCTGCAGCTTGCTAACCTGCCTGATCTATACAAAG  
TCTTTGAGAGGTGT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC230403 representing NM\_001167617  
 Red=Cloning site Green=Tags(s)

MAFEALASISHVAHVTITTKTADGKCA YRASYS DGK LKAPPKPCAGNQGTQITVEDLFYNIATRRKALKN  
 PSEEYKILEVVG RYSVHNAGISF SVKKQGETVADVRTL PNA STVDNIRSI FGN AVSREL IEIGCEDKTL  
 AFKMNGYISNANY SVKKCIFLLF INHRL VESTSLRKA IETVYAA YLPKNTHPFLYL SLEISPQNVDVNVH  
 PTKHEVHFLHEESILERVQQHIESKLLGSNSRMYFTQTL LPLAGPSGEMVKSTTSLTSSSTSGSSDKV  
 YAHQMVRTDSREQ LDAFLQPLSKPLSSQPQAI VTE DKTDI SSGRARQQDEEMLELPAPAEVAAKNQSLE  
 GDTTKGTSEMSEKRGPTSSNPRKRHRESDVEMVEDDSRKEMTA ACTPRRRI INLTSVLSLQEEINEQGH  
 EVLREMLHNHSFVGC VNPQWALAQHQTKLYLLNTTKLSEELFYQIL IYDFANFGVLR LSEPA PLFDLAML  
 ALDSPESGWTEEDGPK EGLAEYIVEFLKKA EMLADYFSL EIDEEGNL IGLPLLIDNYVPPLEGLPIFIL  
 RLATEVNWDEEKECFESLSKECAMFY SIRQYISEESTLSGQQSEVPGSIPNSWKWTV EHVIVYKALRSHI  
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TRTRPLEQKLISEEDLAANDILDYKDDDDKV

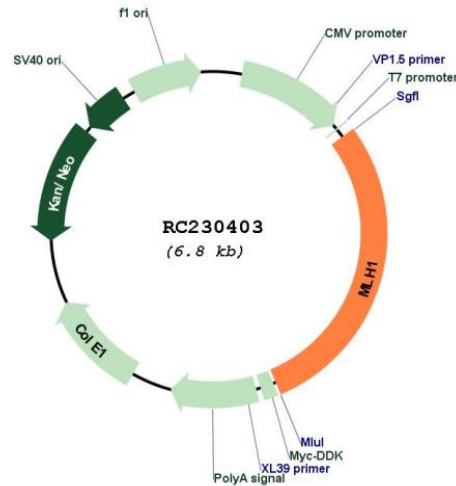
**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



## Plasmid Map:



ACCN: NM\_001167617

ORF Size: 1974 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\\_001167617.2](#)

RefSeq Size:	2473 bp
RefSeq ORF:	1977 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:	73.8 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>