

Product datasheet for **RC232899**

MLH1 (NM_001258274) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MLH1 (NM_001258274) 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:

>RC232899 representing NM_001258274
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGAATGGTTACATATCCAATGCAAACACTCAGTGAAGAAGTGCATCTTCTTACTTTCATCAACCATC
 GTCTGGTAGAATCAACTTCTTGAGAAAAGCCATAGAAAACAGTGTATGCAGCCTATTGGCCAAAAACAC
 ACACCCATTCTGTACCTCAGTTTGAAGTCAAGTCCCGAGAAATGTGGATGTTAATGTGCACCCCAAAAG
 CATGAAGTTCACCTCCTGCACGAGGAGAGCATCCTGGAGCGGGTGCAGCAGCACATCGAGAGCAAGCTCC
 TGGGCTCCAATTCCTCCAGGATGTACTTCAACCCAGACTTTGCTACCAGGACTTGTGGCCCTCTGGGGA
 GATGGTTAAATCCACAACAAGTCTGACCTCGTCTTCTACTTCTGGAAGTAGTGATAAGGTCTATGCCAC
 CAGATGGTTCGTACAGATTCCCGGGAACAGAAGCTTGTGCATTCTGCAGCCTCTGAGCAAACCCCTGT
 CCAGTCAGCCCCAGGCCATTGTACAGAGGATAAGACAGATATTCTAGTGGCAGGGCTAGGCAGCAAGA
 TGAGGAGATGCTTGAACCCAGCCCTGCTGAAGTGGCTGCCAAAAATCAGAGCTTGGAGGGGATACA
 ACAAAAGGGGACTTCAGAAATGTCAGAGAAGAGAGGACCTACTTCCAGCAACCCAGAAAGAGACATCGGG
 AAGATTCTGATGTGAAATGGTGAAGATGATCCCGAAAGGAAATGACTGCAGCTTGTACCCCCGGAG
 AAGGATCATTAACTCACTAGTGTGTTGAGTCTCCAGGAAGAAATTAATGAGCAGGGACATGAGGTTCTC
 CGGGAGATGTTGCATAACCACTCCTTCTGGGCTGTGTGAATCCTCAGTGGGCTTGGCAGCAGTCAAA
 CCAAGTTATACCTTCTCAACACCACCAAGCTTAGTGAAGAAGTGTCTACCAGATACTCATTATGATTT
 TGCCAATTTGGTGTCTCAGGTTATCGGAGCCAGCACCGCTCTTTGACCTTGCATGCTTGCCCTAGAT
 AGTCCAGAGAGTGGTGGACAGAGGAAGATGGTCCAAAGAAGGACTTGTGAATACATTTGTTGAGTTTC
 TGAAGAAGAAGGCTGAGATGCTGCAGACTATTTCTCTTTGAAATTGATGAGGAAGGAACTGATTGG
 ATTACCCCTTCTGATTGACAACATGTGCCCTTTGGAGGACTGCCTATCTTCACTTCTCGACTAGCC
 ACTGAGGTGAATTGGGACGAAGAAAAGGAATGTTTTGAAAGCCTCAGTAAAGAATGCGCTATGTTCTATT
 CCATCCGGAAGCAGTACATATCTGAGGAGTCGACCCTCTCAGGCCAGCAGAGTGAAGTGCCTGGCTCCAT
 TCCAAACTCCTGGAAGTGGACTGTGGAACACATTGTCTATAAAGCCTTGCCTCACACATTCTGCCTCCT
 AAACATTTACAGAAGATGGAATATCCTGCAGCTTGCTAACCTGCCTGATCTATACAAAGTCTTTGAGA
 GGTGT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC232899 representing NM_001258274
 Red=Cloning site Green=Tags(s)

MNGYISNANYSVKKCIFLLFINHRLVESTSLRKAIEVYAAAYLPKNTHPFLYL SLEISPNVDVNVHPTK
 HEVHFLHEESILERVQQHIESKLLGSNSRMYFTQTLPLAGPSGEMVKSTTSLTSSSTSGSSDKVYAH
 QMVRTDSREQKLDALFQPLSKPLSSQPQAIVTEDKTDISSGRARQQDEEMLELPAPAEVAAKNQSLGDT
 TKGTSEMSEKRGPTSSNPRKRHRESDVEMVEDDSRKEMTAACP RRRRIINLTSVLSLQEEINEQGHEVL
 REMLHNHSFVGCVNPQWALAQHTKLYLLNNTTKLSEELFYQILYDFANFVLRLEPAPLFDLAMLALD
 SPESGWTEEDGPKGLAEYIVEFLKKAEMLADYFSLIDEENLIGLPLLDNYVPPLEGLPIFILRLA
 TEVNWDEEKECFESLSKECAMFY SIRQYISEESTLSGQQSEVPGSIPNSWKWTVHEIVYKALRSHILPP
 KHFTEDGNILQLANLPDLYKVFERC

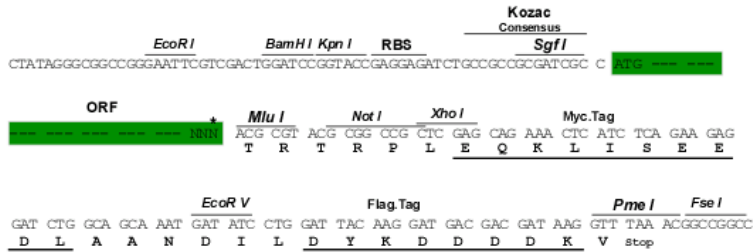
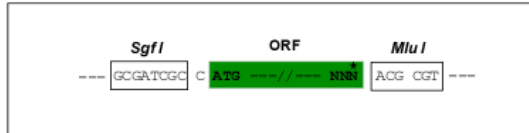
TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

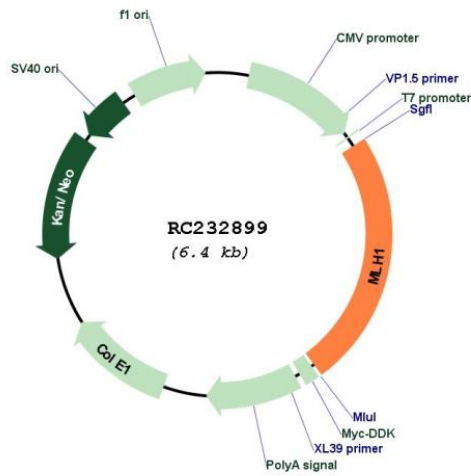
Cloning Scheme:

Cloning sites used for ORF Shutting:



* The last codon before the Stop codon of the ORF

Plasmid Map:



ACCN:	NM_001258274
ORF Size:	1545 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:	<ol style="list-style-type: none">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_001258274.2
RefSeq Size:	2623 bp
RefSeq ORF:	1548 bp
Locus ID:	4292
UniProt ID:	P40692
Cytogenetics:	3p22.2
Protein Families:	Druggable Genome
Protein Pathways:	Colorectal cancer, Endometrial cancer, Mismatch repair, Pathways in cancer
MW:	58.8 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]