

## Product datasheet for **RG230403**

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

#### Product data:

Product Type:	Expression Plasmids
Product Name:	MLH1 (NM_001167617) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	MLH1
Synonyms:	COCA2; FCC2; hMLH1; HNPCC; HNPCC2; MMRCS1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

ORF Nucleotide  
Sequence:

>RG230403 representing NM\_001167617  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCCGCATCGCC

ATGGCTTCGAGGCTTTGGCCAGCATAAGCCATGTGGCTCATGTTACTATTACAACGAAAACAGCTGATG  
GAAAGTGTGCATACAGAGCAAGTTACTCAGATGGAAAACGAAAGCCCTCCTAAACCATGTGCTGGCAA  
TCAAGGGACCCAGATCACGGTGGAGGACCTTTTTTACAACATAGCCACGAGGAGAAAAGCTTTAAAAAAT  
CCAAGTGAAGAATATGGGAAAATTTTGGAAAGTTGTTGGCAGGTATTCAGTACACAATGCAGGCATTAGTT  
TCTCAGTTAAAAACAAGGAGAGACAGTGTGTTAGGACTACCCAATGCCTCAACCGTGGACAA  
TATTCGCTCCATCTTTGGAAATGCTGTTAGTGTGAGAACTGATAGAAATGGATGTGAGGATAAAACCCTA  
GCCTTCAAATGAATGGTTACATATCCAATGCAAACTACTCAGTGAAGAAGTGCATCTTCTACTCTTCA  
TCAACCATCGTCTGGTAGAATCAACTTCCTTGAGAAAAGCCATAGAAACAGTGTATGCAGCCTATTTGCC  
CAAAAACACACCCATTCTGTACCTCAGTTTAGAAATCAGTCCCAGAAATGTGGATGTTAATGTGCAC  
CCACAAAAGCATGAAGTTCATTCCTGCACGAGGAGAGCATCCTGGAGCGGGTGCAGCAGACATCGAGA  
GCAAGCTCCTGGGCTCAATTCTCCAGGATGACTTCAACCAGACTTTGCTACCAGGACTTGCTGGCCC  
CTCTGGGGAGATGGTTAAATCCACAACAAGTCTGACCTCGTCTTCTACTTCTGGAAGTAGTGATAAGGTC  
TATGCCACCAGATGGTTCGTACAGATTCGCGGGAACAGAAGCTTGATGCATTTCTGCAGCCTCTGAGCA  
AACCCCTGTCCAGTCAGCCCCAGGCCATTGTACAGAGGATAAGACAGATATTTCTAGTGGCAGGGCTAG  
GCAGCAAGATGAGGAGATGCTTGAATCCCAGCCCCTGCTGAAGTGGCTGCCAAAATCAGAGCTTGGAG  
GGGATACAACAAGGGGACTTCAGAAATGTGAGAGAAGAGAGGACCTACTTCCAGCAACCCAGAAAAGA  
GACATCGGGAAGATTCTGATGTGGAATGGTGAAGATGATCCGAAAAGGAAATGACTGCAGCTTGATC  
CCCCGGAGAAGGATCATTAACTCACTAGTGTGTTTGTAGTCTCCAGGAAGAAATTAATGAGCAGGGACAT  
GAGGTTCTCCGGGAGATGTTGCATAACCACTCCTTCGTGGGCTGTGTGAATCCTCAGTGGCCTTGGCAC  
AGCATCAAACCAAGTTATACCTTCTCAACACCACCAAGCTTAGTGAAGAAGTGTCTACCAGATACTCAT  
TTATGATTTTGCCAATTTTGGTGTCTCAGGTTATCGGAGCCAGCACCGCTCTTTGACCTTGCCATGCTT  
GCCTTAGATAGTCCAGAGAGTGGCTGGACAGAGGAAGATGGTCCCAAAGAAGGACTTGCTGAATACATTG  
TTGAGTTTCTGAAGAAGAAGGCTGAGATGCTTGCAGACTATTTCTCTTTGGAAATGATGAGGAAGGGAA  
CCTGATTGGATTACCCCTTCTGATTGACAATATGTGCCCTTTGGAGGGACTGCCTATCTTCATTCTT  
CGACTAGCCACTGAGGTGAATTTGGACGAAGAAAAGGAATGTTTTGAAAGCCTCAGTAAAGAATGCGCTA  
TGTTCTATTCCATCCGGAAGCAGTACATATCTGAGGAGTGCACCTCTCAGGCCAGCAGAGTGAAGTGCC  
TGGCTCCATTCAAACCTCCTGGAAGTGGACTGTGGAACACATTGTCTATAAAGCCTTGCCTCACACATT  
CTGCCTCCTAAACATTTACAGAAGATGGAATATCCTGCAGCTTGTAACTGCCTGATCTATACAAAAG  
TCTTTGAGAGGTGT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >RG230403 representing NM\_001167617  
 Red=Cloning site Green=Tags(s)

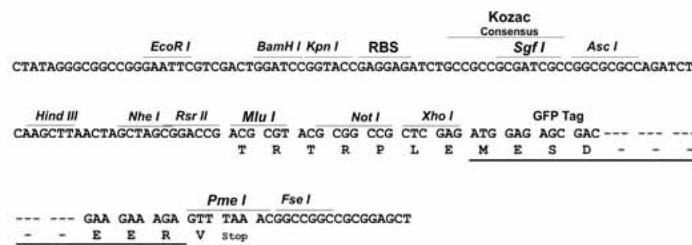
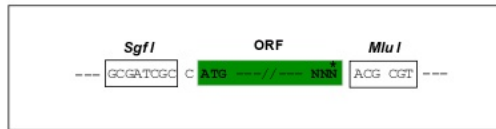
MAFEALASISHVAHVITITTKTADGKCAIRASYSYGKLPKPKPCAGNQGTQITVEDLFYNIATRRKALKN  
 PSEEYGIKILEVGRYSVHNAGISFSVKKQGETVADVRLPNASTVDNIRSIIFGNVAVSRELIEIGCEDKTL  
 AFKMNGYISNANYSVKKCIFLLFINHRLVESTSLRKAIEIVYAAVLPKNTHPFLYLSLEISPNQVNDVNVH  
 PTKHEVHFLHEESILERVQQHIESKLLGSNSRMYFTQTLLPGLAGPSGEMVKSTTSLTSSSTSGSSDKV  
 YAHQMVRTDSREQLDAFLQPLSKPLSSQPQAIIVTEDKTDISSGRARQQDEEMLELPAPAEVAAKNQSL  
 GDTTKGTSEMSEKRGPTSSNPKRHRESDVEMVEDDSRKEMTAACTPRRRIINLTSVLSLQEEINEQGH  
 EVLREMLHNHSFVGCVPQWALAQHQTKLYLLNNTTKLSEELFYQILYDFANFVLRSEAPLFDLAML  
 ALDSPESGWTEEDGPKGLAEYIVEFLKKAEMLADYFSLIDEENLIGLPLLIDNYVPPLEGLPIFIL  
 RLATEVNWDEEKECFESLSKECAMFYIIRKQYISEESTLSGQQSEVPGSIPNSWKWTVHEIYVKALRSHI  
 LPPKHFTEDGNILQLANLPDLYKVFERC

TRTRPLE - GFP Tag - V

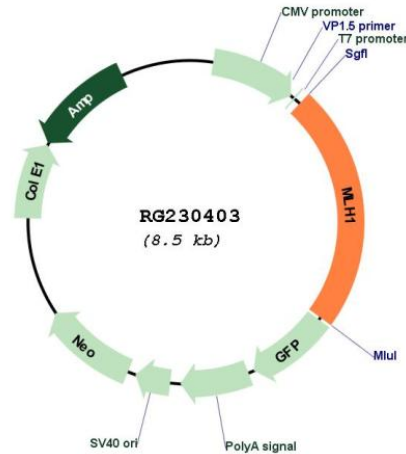
**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



## 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
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>