

Product datasheet for **RG201607**

MLH1 (NM_000249) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MLH1 (NM_000249) 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:

>RG201607 representing NM_000249
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGTCGTTGCGTGGCAGGGGTTATTCGGCGGCTGGACGAGACAGTGGTGAACCGCATCGCGCGGGGGAAG
TTATCCAGCGGCCAGCTAATGCTATCAAAGAGATGATTGAGAAGTGTGTTAGATGCAAAATCCACAAGTAT
TCAAGTGATTGTTAAAGAGGGAGGCCTGAAGTTGATTCAGATCCAAGACAATGGCACCGGGATCAGGAAA
GAAGATCTGGATATTGTATGTGAAAGGTTCACTACTAGTAAACTGCAGTCCCTTTGAGGATTTAGCCAGTA
TTTCTACCTATGGCTTTGAGGTGAGGCTTTGGCCAGCATAAGCCATGTGGCTCATGTTACTATTACAAC
GAAAACAGCTGATGAAAGTGTGCATACAGAGCAAGTTACTCAGATGGAAAAGTAAAGCCCTCTCTAAA
CCATGTGCTGGCAATCAAGGGACCCAGATCACGGTGGAGGACCTTTTTTACAACATAGCCACGAGGAGAA
AAGCTTTAAAAATCCAAGTGAAGAATATGGGAAAATTTTGAAGTTGTTGGCAGGTATTCAGTACACAA
TGCAGGCATTAGTTTCTCAGTAAAAAACAAGGAGAGACAGTAGCTGATGTTAGGACACTACCCAATGCC
TCAACCGTGGACAATATTCGCTCCATCTTTGAAATGCTGTTAGTCGAGAAGTATAGAAAATGGATGTG
AGGATAAAACCTAGCCTTCAAAATGAATGGTTACATATCCAATGCAAACTACTCAGTGAAGAAGTGCAT
CTTCTTACTCTTCATCAACCATCGTCTGGTAGAATCAACTTCTTGAGAAAAGCCATAGAAAACAGTGTAT
GCAGCCTATTTGCCAAAAACACACACCATTCTGTACCTCAGTTTAGAAAATCAGTCCCGAGAATGTGG
ATGTTAATGTGCACCCCAAAAGCATGAAGTTCACCTTCTGCACGAGGAGAGCATCTCGGAGCGGGTGA
GCAGCACATCGAGAGCAAGCTCCTGGGCTCCAATTCCTCCAGGATGTACTTCACCCAGACTTTGCTACCA
GGACTTGTGGCCCTCTGGGGAGATGGTTAAATCCACAACAAGTCTGACCTCGTCTTCTACTTCTGGAA
GTAGTGATAAGGTCTATGCCACCAGATGGTTTCGTACAGATTCCCGGGAACAGAAGCTTGATGCATTCT
GCAGCCTCTGAGCAAACCCCTGTCCAGTCAGCCCCAGGCCATTGTACAGAGGATAAGACAGATATTCT
AGTGGCAGGGCTAGGCAGCAAGATGAGGAGATGCTTGAACCTCCAGCCCTGCTGAAAGTGGCTGCCAAAA
ATCAGAGCTTGGAGGGGATACAACAAAGGGGACTTCAGAAATGTGAGAGAAGAGAGGACCTACTCCAG
CAACCCAGAAAGAGACATCGGGAAGATTCTGATGTGAAATGGTGAAGATGATCCCGAAAGGAAATG
ACTGCAGCTTGTACCCCGGAGAAGGATCATTAACTCACTAGTGTGTTTGTGCTCCAGGAAGAAATTA
ATGAGCAGGGACATGAGGTTCTCCGGGAGATGTTGCATAACCACTCCTTCGTGGGCTGTGTGAATCCTCA
GTGGGCCCTTGGCACAGCATCAAACCAAGTTATACCTTCTCAACACCACCAAGCTTAGTGAAGAAGTTC
TACCAGATACTCATTATGATTTTGCCAAATTTGGTGTCTCAGGTTATCGGAGCCAGCACCGCTCTTTG
ACCTTGCCATGCTTGCCCTTAGATAGTCCAGAGAGTGGCTGGACAGAGGAAGATGGTCCCAAGAAGGACT
TGCTGAATACATTGTTGAGTTTCTGAAGAAGAAGGCTGAGATGCTTGCAGACTATTTCTCTTTGAAAT
GATGAGGAAGGGAACCTGATTGGATTACCCCTTCTGATTGACAATATGTGCCCCCTTTGGAGGGACTGC
CTATCTTCATTCTTCGACTAGCCACTGAGGTGAATTGGGACGAAGAAAAGGAATGTTTTGAAAGCCTCAG
TAAAGAATGCGCTATGTTCTATTCCATCCGGAAGCAGTACATATCTGAGGAGTCGACCCTCTCAGGCCAG
CAGAGTGAAGTGCCTGGCTCCATTCCAACCTCCTGGAAGTGGACTGTGGAACACATTGTCTATAAAGCCT
TGCGCTCACACATTCTGCCTCCTAAACATTTACAGAAGATGAAATATCCTGCAGCTTGCTAACCTGCC
TGATCTATACAAAGTCTTTGAGAGGTGT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence: >RG201607 representing NM_000249
Red=Cloning site Green=Tags(s)

```
MSFVAGVIRRLDETVVNRIAAGEVIQRPANAIEKEMENCLDAKSTSIQVIVKEGGLKLIQIQDNGTGIRK
EDLDIVCERFTTSKLSQFEDLASISTYGRGEALASISHVAHVITTTKTADGKCAFRASYSDGKLGKAPPK
PCAGNQGTQITVEDLFYNIATRRKALKNPSEEYKILEVVGGRYSVHNAGISFSVKKQGETVADVRTLPA
STVDNIRSIIFGNAVSRELIIEIGCEDKTLAFKMNGYISNANYSVKKCIFLLFINHRLVESTSLRKAIVY
AAAYLPKNTHPFLYLSEI SPQNVVDVNVHPTKHEVHFLHEESILERVQQHIESKLLGSNSSRMFTQTLLP
GLAGPSGEMVKSTTSLTSSSTSGSSDKVYAHQMVRTDSREQKLD AFLQPLSKPLSSQPQAI VTE DKTDIS
SGRARQQDEEMLELPAPAEVAANKQSLEGDTTKGTSEMSEKRGPTSSNPRKRHRESDVEMVEDDSRKEM
TAACTPRRRIINLTSVLSLQEEINEQGHEVLREMLHNHSFVGCVPQWALAQHQTKLYLLNTTKLSEELF
YQILIIYDFANFVLRLEPAPLFDLAMLALDSPESGWTEEDGPKLEAEYIVEFLKKAEMLADYFSL E I
DEEENLIGLPLLIDNYVPPLEGLPIFILRLATEVNWDEEKECFESLSKECAMFY S I R K Q Y I S E E S T L S G Q
QSEVPGSIPNSWKWTVEHIVYKALRSHILPPKHFTE D G N I L Q L A N L P D L Y K V F E R C
```

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_000249

ORF Size: 2268 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_000249.4](#)

RefSeq Size: 2524 bp

RefSeq ORF: 2271 bp

Locus ID: 4292

UniProt ID: [P40692](#)

Cytogenetics: 3p22.2

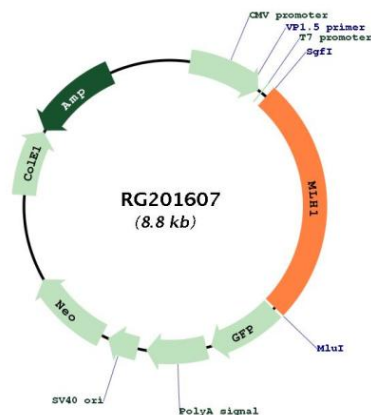
Domains: DNA_mis_repair, HATPase_c

Protein Families: Druggable Genome

Protein Pathways: Colorectal cancer, Endometrial cancer, Mismatch repair, Pathways in cancer

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]

Product images:



Circular map for RG201607