

## Product datasheet for **RG232898**

### **MLH1 (NM\_001258273) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	MLH1 (NM_001258273) 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)



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**ORF Nucleotide Sequence:**

>RG232898 representing NM\_001258273  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGAATGGTTACATATCCAATGCAAACACTCAGTGAAGAAGTGCATCTTCTTACTTTCATCAACCATC  
 GTCTGGTAGAATCAACTTCTTGAGAAAAGCCATAGAAACAGTGTATGCAGCCTATTGGCCAAAAACAC  
 ACACCCATTCTGTACTCTCAGTTTAGAAATCAGTCCCCAGAATGTGGATGTTAATGTGCACCCCAAAAAG  
 CATGAAGTTCACTTCTGCACGAGGAGAGCATCCTGGAGCGGGTGCAGCAGCACATCGAGAGCAAGCTCC  
 TGGGCTCAAATTCCTCCAGGATGTACTTCAACCAGACTTTGCTACCAGGACTTGTGGCCCTCTGGGGA  
 GATGGTAAATCCACAACAAGTCTGACCTCGTCTTCTACTTCTGGAAGTAGTGATAAGGTCTATGCCAC  
 CAGATGGTTCGTACAGATTCCCAGGAAACAGAAGCTTGATGCATTCTGCAGCCTCTGAGCAAACCCCTGT  
 CCAGTCAGCCCCAGGCCATTGTACAGAGGATAAGACAGATATTCTAGTGGCAGGGCTAGGCAGCAAGA  
 TGAGGAGATGCTTGAACCCCAGCCCTGCTGAAGTGGCTGCCAAAAATCAGAGCTTGGAGGGGATACA  
 ACAAAAGGGGACTTCAGAAATGTCAGAGAAGAGAGGACCTACTTCCAGCAACCCCAAGAGACATCGGG  
 AAGATTCTGATGTGAAATGGTGAAGATGATCCCGAAAGGAAATGACTGCAGCTTGTACCCCCCGGAG  
 AAGGATCATTAACCTCACTAGTGTGTTGAGTCTCCAGGAAGAAATTAATGAGCAGGGACATGAGGTTCTC  
 CGGGAGATGTTGCATAACCCTCCTTCTGGGCTGTGTGAATCCTCAGTGGGCTTGGCAGCATCAAA  
 CCAAGTTATACCTTCTCAACACCACCAAGCTTAGTGAAGAAGTGTCTACCAGATACTCATTATGATTT  
 TGCCAATTTGGTGTCTCAGGTATCGGAGCCAGCACCCTCTTTGACCTGCCATGCTTGCCCTTAGAT  
 AGTCCAGAGAGTGGCTGGACAGAGGAAGATGGTCCAAAGAAGGACTTGCATGATACATTGTTGAGTTTC  
 TGAAAGAAGAAGGCTGAGATGCTTGCAGACTATTTCTCTTTGAAATGATGAGGAAGGAACTGATTGG  
 ATTACCCCTTCTGATTGACAACATGTGCCCCCTTTGGAGGACTGCCTATCTTCACTTCTCGACTAGCC  
 ACTGAGGTGAATTTGGACGAAGAAAAGGAATGTTTTGAAAGCCTCAGTAAAGAATGCGCTATGTTCTATT  
 CCATCCGGAAGCAGTACATATCTGAGGAGTCGACCCTCTCAGGCCAGCAGAGTGAAGTGCCTGGCTCCAT  
 TCCAAACTCCTGGAAGTGGACTGTGGAACACATTGTCTATAAAGCCTTGCCTCACACATTCTGCCTCCT  
 AAACATTTACAGAAGATGGAATATCCTGCAGCTTGCTAACCTGCCTGATCTATACAAAGTCTTTGAGA  
 GGTGT

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>RG232898 representing NM\_001258273  
 Red=Cloning site Green=Tags(s)

MNGYISNANYSVKKCIFLLFINHRLVESTSLRKAJETVYAAAYLPKNTHPFLYL SLEISPQNVDVNVHPTK  
 HEVHFLHEESILERVQQHIESKLLGSNSSRMYFTQTLPLAGPSGEMVKSTTSLTSSSTSGSSDKVYAH  
 QMVRTDSREQLDAFLQPLSKPLSSQPQAIIVTEKTDISSGRARQQDEEMLELPAPAEVAAKNQSLGDT  
 TKGTSEMSEKRGPTSSNPRKRHRESDVEMVEDDSRKEMTAACTPRRRIINLTVLSLQEEINEQGHEVL  
 REMLHNHSFVGCVNPQWALAQHQTKLYLLNNTKLSEELFYQILYDFANFGVLRRLSEPAFLFDLAMLALD  
 SPESGWTEEDGPKELAEYIVEFLKKAEMLDYFSLIDEENLIGLPLLIDNYVPPLEGLPIFILRLA  
 TEVNWDEEKECFESLSKECAMFYSIRKQYI SEESTLSGQQSEVPGSIPNSWKWTVHEIVYKALRSHILPP  
 KHFTEDGNILQLANLPDYKVFERC

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-Mlul



<b>ACCN:</b>	NM_001258273
<b>ORF Size:</b>	1545 bp
<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_001258273.1</a> , <a href="#">NP_001245202.1</a>
<b>RefSeq Size:</b>	2587 bp
<b>RefSeq ORF:</b>	1548 bp
<b>Locus ID:</b>	4292
<b>UniProt ID:</b>	<a href="#">P40692</a>
<b>Cytogenetics:</b>	3p22.2
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Colorectal cancer, Endometrial cancer, Mismatch repair, Pathways in cancer
<b>Gene Summary:</b>	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]