

Product datasheet for **SC119993**

MLH1 (NM_000249) Human Untagged Clone

Product data:

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| Product Type: | Expression Plasmids |
| Product Name: | MLH1 (NM_000249) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | MLH1 |
| Synonyms: | COCA2; FCC2; hMLH1; HNPCC; HNPCC2; MMRCS1 |
| Mammalian Cell Selection: | None |
| Vector: | <u>pCMV6-XL5</u> |
| E. coli Selection: | Ampicillin (100 ug/mL) |



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Fully Sequenced ORF: >OriGene ORF within SC119993 sequence for NM_000249 edited (data generated by NextGen Sequencing)

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ATGTCGTTCTGTCAGGGGTTATTCGGCGGCTGGACGAGACAGTGGTGAACCGCATCGCG
GCGGGGGAAGTTATCCAGCGCCAGCTAATGCTATCAAAGAGATGATTGAGAAGTGTAA
GATGCAAAATCCACAAGTATTCAAGTATTGTTAAAGAGGGAGGCCTGAAGTTGATTGAG
ATCCAAGACAATGGCACCAGGATCAGGAAAGAAGATCTGGATATTGTATGTGAAAGGTTT
ACTACTGTAAGTGCAGTCTTTGAGGATTTAGCCAGTATTTCTACCTATGGCTTTGCGA
GGTGAGGCTTTGGCCAGCATAAGCCATGTGGCTCATGTTACTATTACAACGAAAACAGCT
GATGAAAAGTGTGCATACAGAGCAAGTTACTCAGATGAAAACGAAAAGCCCTCTTAA
CCATGTGCTGGCAATCAAGGGACCCAGATCACGGTGGAGGACCTTTTTTACAACATAGCC
ACGAGGAGAAAAGCTTTAAAAAATCCAAGTGAAGAATATGGGAAAATTTTGAAGTTGTT
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GTAGCTGATGTTAGGACTACCCAATGCCTCAACCGTGGACAATATTCGCTCCGCTTTT
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AAAATGAATGGTTACATATCCAATGCAAACTACTCAGTGAAGAAGTGCATCTTCTACTC
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GCAGCCTATTTGCCCAAAAACACACACCCATTCTGTACCTCAGTTTAGAAATCAGTCCC
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GCACAGCATCAAACCAAGTTATACCTTCTCAACACCACCAAGCTTAGTGAAGAACTGTTT
TACCAGATACTCATTTATGATTTTGCCAAATTTGGTGTCTCAGTTATCGGAGCCAGCA
CCGCTCTTTGACCTTGCCATGCTTGCCCTTAGATAGTCCAGAGAGTGGCTGGACAGAGGAA
GATGGTCCCAAAGAGGACTTGCTGAATACATTGTTGAGTTTCTGAAGAAGAGGCTGAG
ATGCTTGACAGACTATTTCTTTGGAAATTGATGAGGAAGGGAACCTGATTGGATTACCC
CTTCTGATTGACAATATGTGCCCTTTGGAGGGACTGCCTATCTTCATTCTTCGACTA
GCCACTGAGGTGAATTGGGACGAAGAAAAGGAATGTTTGAAGCCTCAGTAAAGAATGC
GCTATGTTCTATCCATCCGGAAGCAGTACATATCTGAGGAGTCGACCCTCTCAGGCCAG
CAGAGTGAAGTGCCTGGCTCCATTCCAACTCCTGGAAGTGGACTGTGGAACACATTGTC
TATAAAGCCTTGGCTCACACATTCTGCCTCCTAAACATTTACAGAAGATGGAATATC
CTGCAGCTTGCTAACCTGCCTGATCTATACAAAGTCTTTGAGAGGTGTTAA

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Clone variation with respect to NM_000249.3
655 a=>g

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| 5' Read Nucleotide Sequence: | <p>>OriGene 5' read for NM_000249 unedited</p> <pre>GACTCACTATAGGGCGGCCGGAATTCGGCACGAGGCGCCAAATGTCGTTCTGTCGAGGG GTTATTCGGCGGCTGGACGAGACAGTGGTGAACCCGATCGCGCGGGGGAAGTTATCCAG CGGCCAGCTAATGCTATCAAAGAGATGATTGAGAACTGTTTAGATGCAAAATCCACAAGT ATTCAAGTGATTGTTAAAGAGGGAGGCCGAAGTTGATTGATCCAGATCCAAGACAATGGCACC GGGATCAGGAAAAGAAGATCTGGATATTGTATGTGAAAGGTTCACTACTAGTAAACTGCAG TCCTTTGAGGATTTAGCCAGTATTCTACCTATGGCTTTTCGAGGTGAGGCTTTGGCCAGC ATAAGCCATGTGGCTCATGTTACTATTACAACGAAAACAGCTGATGGAAAAGTGTGCATAC AGAGCAAGTTACTCAGATGGAAAAGTGAAGCCCTCCTAAACCATGTGCTGGCAATCAA GGGACCCAGATCACGGTGGAGGACCTTTTTTACAACATAGCCACGAGGAGAAAAGCTNTA AAAAATCCAAGTGAAGAAATATGGGAAAATTTTGGAAAGTTGTTGGCAGGTATTCAGTACAC AATGCANGCATTAGTTTCTCAGTTAANAAACAAGGAGAGACAGTAGCTGATGTTANGACA CTACCNCATGCCTNCACCGTGGGACATATTCGCTCCGTCTTTGAAAATGCTGNTAGTCGA GAACTGATAGAAATGGNATGTGANNGATAAACCNTAGCCTTCAAATGAATGGNTACATA TCCATGCANACTACTCAGTGAAGAAGTGCATCTTCTACTCTTCATCACCATCGTCTGGT AGAATCACTTNCCTGAAAAGCATAGAACAGGTATGCAGCCTATTGCCAAAACACCACCC ATTCTGTACTCATTAGAATCATCCCAGATGTGATGTATGTGCCCCACAAGCTGAGTCACT TCTGACAGAGACTCTGGACGGTG</pre> |
| 3' Read Nucleotide Sequence: | <p>>OriGene 3' read for NM_000249 unedited</p> <pre>ACGCAATCTAGAGTCGAGTTTTTTTTTTTTTTTTTTTTATGTTAAGACACATCTATTTATTT ATAATCAATCCACTGTGTATAAAGGAATACTATCAGAAGGCAAGTATAAGTCTTAAGTGC TACCAACACTTATGTTGGTACACTTTGTATATCACTTTGATACAACACTTTGTATCGG AATACAGAGAAAAGAACAACATCCCACAGTGCATAAATAACCATATTTAACACCTCTCA AAGACTTTGTATAGATCAGGCAGGTTAGCAAGCTGCAGGATATTTCCATCTTCTGTGAAA TGTTTAAGAGGCAGAATGTGTGAGCGCAAGGCTTTATAGACAATGTGTTCCACAGTCCAC TTCCAGGAGTTTGGAAATGGAGCCAGGCACTTCACTCTGCTGGCCTGAGAGGGTCGACTCC TCAGATATGTACTGCTTCCGGATGGAATAGAACATAGCGCATTCTTTACTGAGGCTTTCA AAACATTCCTTTTCTTCGTCCTCAATTCACCTCAGTGGCTAGTCGAAGAATGAATATAGGC AGTCCCTCCAAAAGGGGGCACATAGTTGTCAATCAGAAGGGGTAATCCAATCAGTTCCCT TCCTCATCAATTTCCAAAAGAAGAATAGTCTGCAAGCCTCCCAACCTTCTTCTTCAGAAAAC TAACAATGTATTACCAAGTCTTCTTTTGGACCATCTTCTCTGCCCAGCCACTCCTTG GATTTTTAAGGCACCCTGGCAGGGCAAAAAGCGAGCTGGCTCCGTTACCCGAGAACCCTAA ATCGGGAAATCCTAATGACCTCGGCACAAAACCCCTCCCCACCTGGGGGGGTGAAAAGAAT ACTGGTTCAGCTGTGCCAGGCCCTGGTTCACCTCCCCGAGGTGGGTTTACACTTTTCGA AAACTAGTACCCGCCATTCTTCCCGGCACTCTCCCTCGGGCTTTGTCTCCCGTGGGCG CATCTT</pre> |
| Restriction Sites: | ECoRI-NOT |
| ACCN: | NM_000249 |
| Insert Size: | 2600 bp |
| OTI Disclaimer: | Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP). |
| 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). |

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| 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_000249.2 , NP_000240.1 |
| 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: | <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> <p>Transcript Variant: This variant (1) encodes the longest isoform (1).</p> |