

Product datasheet for **KN201607**

MLH1 Human Gene Knockout Kit (CRISPR)

Product data:

Product Type:	Knockout Kits (CRISPR)
Format:	2 gRNA vectors, 1 GFP-puro donor, 1 scramble control
Donor DNA:	GFP-puro
Symbol:	MLH1
Locus ID:	4292
Components:	<p>KN201607G1, MLH1 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GACAGTGGTGAACCGCATCG</p> <p>KN201607G2, MLH1 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: TCGTGGCAGGGGTTATTCGG</p> <p>KN201607D, donor DNA containing left and right homologous arms and GFP-puro functional cassette.</p>

Homologous arm and GFP-puro sequences:

pUC vector backbone in gray; Left arm sequence in blue; GFP-puro in green; Right arm in violet

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GGCGACAGAC CAGGCACAGG GCCCATCGC CCTCCGGAGG CTCCACCACC AAATAACGCT GGGTCCACTC
GGGCCGAAA ACTAGAGCCT CGTCGACTTC CATCTTGCTT CTTTTGGGCG TCATCCACAT TCTGCGGGAG
GCCACAAGAG CAGGGCCAAC GTTAGAAAAG CCGCAAGGGG AGAGGAGGAG CCTGAGAAGC GCCAAGCACC
TCCTCCGCTC TGCGCCAGAT CACCTCAGCA GAGGCACACA AGCCCGGTTT CGGCATCTCT GCTCCTATTG
GCTGGATATT TCGTATTCCC CGAGTCCTA AAAACGAACC AATAGGAAGA GCGGACAGCG ATCTCTAACG
CGCAAGCGCA TATCCTTCTA GGTAGCGGGC AGTAGCCGCT TCAGGGAGGG ACGAAGAGAC CCAGCAACCC
ACAGAGTTGA GAAATTTGAC TGGCATTCAA GCTGTCCAAT CAATAGCTGC CGCTGAAGGG TGGGGCTGGA
TGGCGTAAGC TACAGCTGAA GGAAGAACGT GAGCACGAGG CACTGAGGTG ATTGGCTGAA GGCACCTCCG
TTGAGCATCT AGACGTTTCC TTGGCTCTTC TGGCGCCAAA GCCAGCTAAT GCTATCAAAG AGATGATTGA
GAACTGGTAC GGAGGGAGTC GAGCCGGGCT CACTTAAGGG CTACGACTTA ACGGGCCCGG TCACTCAATG
GCGCGGACAC GCCTCTTTC CCGGGCAGAG GCATGTACAG CGCATGCCA CAACGGCGGA GGCCGCCGGG
TTCCTGACG TGCCAGTCAG GCCTTCTCT TTTCCGAGA CCGTGTGTTT CTTTACCCT CTCCCCGAG
ACTTTTAAG GTTGTTTGG AGTGAAGTG GAGGAATATA CGTAGTGTG TCTTAATGGT ACCGTTAACT
AAGTAAGGAA GCCACTTAAT TTAATAATAT GTATGCAGAA CATGCGAAGT TAAAAGATGT ATAAAAGCTT
AAGATGGGGA GAAAAACCTT TTTTCAGAGG GACTGTGTT ACTGTTTTCT TGCTTTTCAT TCATTCCAGA
AATCATCTGT TCACATCAA AGGCACAATT CATTITGAGT TTCTTTCAA ACAATCGTT TGTAGTTTTA
GGACAGGCTG ATGCACTTTG GGCTTGACTT CTGATTACCC TATTGTTAAA TTAGTGACCC CTCTTAGTGT
TTTCTGTCC
```

GE100003, scramble sequence in pCas-Guide vector



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Disclaimer: These products are manufactured and supplied by OriGene under license from ERS. The kit is designed based on the best knowledge of CRISPR technology. The system has been functionally validated for knocking-in the cassette downstream the native promoter. The efficiency of the knock-out varies due to the nature of the biology and the complexity of the experimental process.

RefSeq: [NM_000249](#), [NM_001167617](#), [NM_001167618](#), [NM_001167619](#), [NM_001258271](#), [NM_001258273](#), [NM_001258274](#), [NM_001354615](#), [NM_001354616](#), [NM_001354617](#), [NM_001354618](#), [NM_001354619](#), [NM_001354620](#), [NM_001354621](#), [NM_001354622](#), [NM_001354623](#), [NM_001354624](#), [NM_001354625](#), [NM_001354626](#), [NM_001354627](#), [NM_001354628](#), [NM_001354629](#), [NM_001354630](#)

UniProt ID: [P40692](#)

Synonyms: COCA2; FCC2; hMLH1; HNPCC; HNPCC2

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:

