

## Recombinant Mouse Mlh1 Protein, Myc/DDK-tagged

Cat. No. Mlh1-4089M Lot. No. (See product label)

### SPECIFICATION

<b>Product Overview</b>	Purified recombinant protein of mouse full-length mutL homolog 1 (Mlh1), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
<b>Species</b>	Mouse
<b>Source</b>	HEK293
<b>Description</b>	<p>Heterodimerizes with Pms2 to form MutL alpha, a component of the post-replicative DNA mismatch repair system (MMR). DNA repair is initiated by MutS alpha (Msh2-Msh6) or MutS beta (MSH2-MSH3) binding to a dsDNA mismatch, then MutL alpha is recruited to the heteroduplex. Assembly of the MutL-MutS-heteroduplex ternary complex in presence of RFC and PCNA is sufficient to activate endonuclease activity of Pms2. It introduces single-strand breaks near the mismatch and thus generates new entry points for the exonuclease EXO1 to degrade the strand containing the mismatch. DNA methylation would prevent cleavage and therefore assure that only the newly mutated DNA strand is going to be corrected. MutL alpha (Mlh1-Pms2) interacts physically with the clamp loader subunits of DNA polymerase III, suggesting that it may play a role to recruit the DNA polymerase III to the site of the MMR. Also implicated in DNA damage signaling, a process which induces cell cycle arrest and can lead to apoptosis in case of major DNA damages. Heterodimerizes with Mlh3 to form MutL gamma which plays a role in meiosis.</p>
<b>Molecular Mass</b>	84.7 kDa

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<b>Purity</b>	> 80% as determined by SDS-PAGE and Coomassie blue staining
<b>Stability</b>	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
<b>Storage</b>	Store at -80 centigrade after receiving vials.
<b>Concentration</b>	>50 µg/mL as determined by microplate BCA method
<b>Storage Buffer</b>	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

## GENE INFORMATION

<b>Gene Name</b>	Mlh1 mutL homolog 1 [ <i>Mus musculus</i> (house mouse) ]
<b>Official Symbol</b>	Mlh1
<b>Synonyms</b>	MLH1; mutL homolog 1 (E. coli); DNA mismatch repair protein Mlh1; mutL protein homolog 1; colon cancer, nonpolyposis type 2; AI317206; AI325952; AI561766; 1110035C23Rik
<b>Gene ID</b>	17350
<b>mRNA Refseq</b>	NM_026810
<b>Protein Refseq</b>	NP_081086
<b>UniProt ID</b>	Q9JK91

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