



# MLH1 (457-756): sc-4415 WB

## BACKGROUND

DNA mismatch repair (MMR) is essential for maintaining the integrity of the genome during replication. This process is highly conserved across bacterial and eukaryotic systems as many of the genes expressed in bacteria are closely related to the yeast and mammalian homologs. In bacteria, two proteins, MutS and MutL, form homodimeric complexes that are responsible for recognizing and facilitating MMR. Human homologs of MutS include MSH2 and MSH3 (MutS homolog 2 and 3). The corresponding human homologs of MutL are MLH1, PMS1, PMS2 and MLH3. MSH2 and MSH3 form heterodimers that cooperatively mediate MMR. MLH3 preferentially dimerizes with MLH1 to repair DNA mismatches and restore the stability to the genome. Mutations in the genes encoding MSH2 and MLH1 induce microsatellite instability of the DNA. These mutations are associated with the occurrence of hereditary nonpolyposis colorectal cancer (HNPCC) and are a common feature in the progression of many other cancers.

## REFERENCES

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## SOURCE

MLH1 (457-756) is expressed in *E. coli* as a 60 kDa tagged fusion protein corresponding to amino acids 457-756 of hMLH1 of human origin.

## PRODUCT

MLH1 (457-756) is purified from bacterial lysates (>98%) by column chromatography; supplied as 10 µg protein in 0.1 ml SDS-PAGE loading buffer.

## APPLICATIONS

MLH1 (457-756) is suitable as a Western blotting control for sc-582 and sc-11442.

## STORAGE

Store at -20° C; stable for one year from the date of shipment.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.