SANTA CRUZ BIOTECHNOLOGY, INC.

hMLH3 (1228-1453): sc-4416 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 hMSH2 and hMSH3 (MutS homolog 2 and 3). The corresponding human homologs of MutL are hMLH1, hPMS1, hPMS2 and hMLH3. hMSH2 and hMSH3 form heterodimers that cooperatively mediate MMR. hMLH3 preferentially dimerizes with hMLH1 to repair DNA mismatches and restore the stability to the genome. Mutations in the genes encoding hMSH2 and hMLH1 induce microsatellite instablitiy 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.

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SOURCE

hMLH3 (1228-1453) is expressed in *E. coli* as a 52 kDa tagged fusion protein corresponding to amino acids 1228-1453 of hMLH3 of human origin.

PRODUCT

hMLH3 (1228-1453) is purified from bacterial lysates (>98%) by column chromatography; supplied as 10 µg protein in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

hMLH3 (1228-1453) is suitable as a Western blotting control for sc-10200, sc-10201 and sc-11443.

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.