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MLH1 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP7464b

Specification

MLH1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession P40692

MLH1 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 4292

Other Names
DNA mismatch repair protein Mlh1, MutL protein homolog 1, MLH1, COCA2

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7464b was selected from the C-term region of human MLH1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

MLH1 Antibody (C-term) Blocking Peptide - Protein Information

Name MLH1

Synonyms COCA2

MLH1 Antibody (C-term) Blocking Peptide - Background

MLH1 was identified as a locus frequently mutated in hereditary nonpolyposis colon cancer (HNPCC). The protein is a human homolog of the E. coli DNA mismatch repair gene mutL, consistent with the characteristic alterations in microsatellite sequences (RER+ phenotype) found in HNPCC.

MLH1 Antibody (C-term) Blocking Peptide - References

Bronner C.E., Baker S.Nature 368:258-261(1994) Kolodner R.D., Hall N.Cancer Res. 55:242-248(1995) Han H.-J., Maruyama M.Hum. Mol. Genet. 4:237-242(1995)Bellacosa A.Proc. Natl. Acad. Sci. U.S.A. 96:3969-3974(1999)

Function
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.

Cellular Location
Nucleus. Chromosome Note=Recruited to chromatin in a MCM9-dependent manner

Tissue Location
Colon, lymphocytes, breast, lung, spleen, testis, prostate, thyroid, gall bladder and heart

MLH1 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides