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MLH1 Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52809

Specification

MLH1 Antibody - Product Information

Application	**WB**
Primary Accession	P40692
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG2b**
Calculated MW	**85 KDa**

MLH1 Antibody - Additional Information

Gene ID 4292

Other Names
COCA 2;COCA2;DNA mismatch repair protein Mlh1;FCC 2;FCC2;hMLH 1;hMLH1;HNPCC 2;HNPCC;HNPCC2;MGC5172;MLH 1;MLH1;MLH1_HUMAN;MutL homolog 1 (E. coli);MutL homolog 1;MutL homolog 1 colon cancer nonpolyposis type 2;MutL homolog 1, colon cancer, nonpolyposis type 2 (E. coli);MutL protein homolog 1;MutL, E. coli, homolog of, 1.

Dilution
WB~~1:500

Format
Purified mouse monoclonal antibody in PBS(pH 7.4) containing with 0.09% (W/V) sodium azide,0.1mg/mlBSA and 50% glycerol.

Storage
Store at -20 °C.Stable for 12 months from date of receipt

MLH1 Antibody - Protein Information

Name MLH1

Synonyms COCA2

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

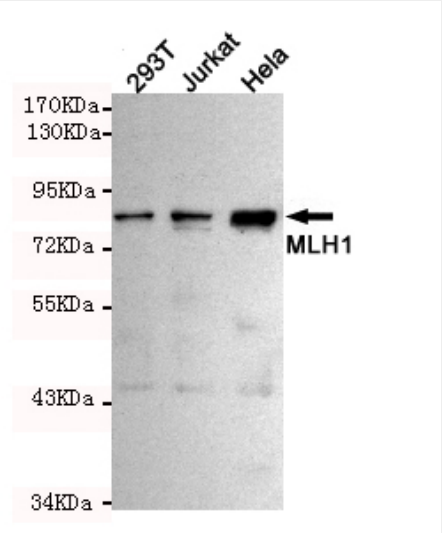
Tissue Location
Colon, lymphocytes, breast, lung, spleen, testis, prostate, thyroid, gall bladder and heart

MLH1 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

MLH1 Antibody - Images



Western blot detection of MLH1 in Hela,293T and Jurkat cell lysates using MLH1 mouse mAb (1:500 diluted).Predicted band size:85KDa.Observed band size:85KDa.

MLH1 Antibody - Background

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MLH1 Antibody - References

Bronner C.E.,et al.Nature 368:258-261(1994).
Papadopoulos N.,et al.Science 263:1625-1629(1994).
Kolodner R.D.,et al.Cancer Res. 55:242-248(1995).
Han H.-J.,et al.Hum. Mol. Genet. 4:237-242(1995).
Ota T.,et al.Nat. Genet. 36:40-45(2004).