10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

# MLH1 antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP22408a

## Product Information

| | |
|---|---|
| **Application** | WB, E |
| **Primary Accession** | P40692 |
| **Host** | Rabbit |
| **Clonality** | polyclonal |
| **Isotype** | Rabbit Ig |
| **Clone Names** | R03919 |
| **Calculated MW** | 84601 |

## Additional Information

| | |
|---|---|
| **Gene ID** | 4292 |
| **Other Names** | DNA mismatch repair protein Mlh1, MutL protein homolog 1, MLH1, COCA2 |
| **Target/Specificity** | This antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between amino acids from human. |
| **Dilution** | WB~~1:2000 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | MLH1 antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## 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 |

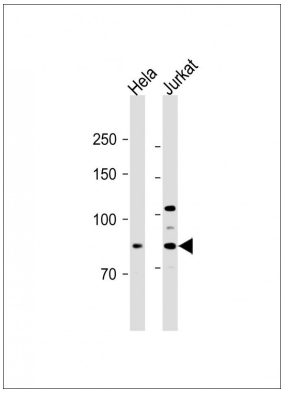
## Background

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.

## 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).


## Images




All lanes: Anti-MLH1 antibody at 1:2000 dilution Lane 1: Hela whole cell lysate Lane 2: Jurkat whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 85 KDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.