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Store at -20C  
#4256

## MLH1 (D38G9) Rabbit mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

<b>Applications:</b> W, IP	<b>Reactivity:</b> H Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 84	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P40692	<b>Entrez-Gene Id:</b> 4292
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### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation

#### Dilution

1:1000  
1:200

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

### Specificity/Sensitivity

MLH1 (D38G9) Rabbit mAb detects endogenous levels of total MLH1 protein.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human MLH1 protein.

### Background

Mismatch repair (MMR), a conserved process that involves correcting errors made during DNA synthesis, is crucial to the maintenance of genomic integrity. MLH1 is the human homologue of the *E. coli* MMR gene *mutL*. MMR requires recognition of a base mismatch or insertion/deletion loop by a MutS homolog followed by recruitment of a MutL heterodimeric complex consisting of MLH1 and PMS1 (MutL-γ), PMS2 (MutL-α), or MLH3 (MutL-γ). Other factors required for MMR in eukaryotes are EXO1, PCNA, RFC, RPA, DNA polymerases, and DNA ligases (reviewed in 1). Inactivation of the *MLH1* gene causes genome instability and predisposition to cancer (2-5). The *MLH1* gene is frequently mutated in hereditary nonpolyposis colon cancer (HNPCC) (6). MLH1 also plays a role in meiotic recombination (7).

### Background References

1. Modrich, P. (2006) *J Biol Chem* 281, 30305-9.
2. Seng, T.J. et al. (2008) *Br J Cancer* 99, 375-82.
3. Harley, I. et al. (2008) *Gynecol Oncol* 109, 384-7.
4. Mao, G. et al. (2008) *J Biol Chem* 283, 3211-6.
5. Hubner, R.A. and Houlston, R.S. (2007) *J Natl Cancer Inst* 99, 1490; author reply 1490-1.
6. Vasen, H.F. (2005) *Fam Cancer* 4, 219-25.
7. Argueso, J.L. et al. (2003) *Mol Cell Biol* 23, 873-86.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

### Applications Key

**W:** Western Blotting **IP:** Immunoprecipitation

### Cross-Reactivity Key

**H:** Human **Mk:** Monkey

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