

#3515 Store at -20C

MLH1 (4C9C7) Mouse mAb


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TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, IF-IC, FC-FP	H Mk	Endogenous	85	Mouse IgG1	#P40692	4292

Product Usage Information

Application

Western Blotting
Immunoprecipitation
Immunofluorescence (Immunocytochemistry)
Flow Cytometry (Fixed/Permeabilized)

Dilution

1:1000
1:100
1:300
1:400

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 (4C9C7) Mouse mAb detects endogenous levels of total MLH1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with truncated recombinant MBP-MLH1.

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

- Modrich, P. (2006) *J Biol Chem* 281, 30305-9.
- Seng, T.J. et al. (2008) *Br J Cancer* 99, 375-82.
- Harley, I. et al. (2008) *Gynecol Oncol* 109, 384-7.
- Mao, G. et al. (2008) *J Biol Chem* 283, 3211-6.
- Hubner, R.A. and Houlston, R.S. (2007) *J Natl Cancer Inst* 99, 1490; author reply 1490-1.
- Vasen, H.F. (2005) *Fam Cancer* 4, 219-25.
- 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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)
FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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