Revision 1

Store at -20C

#4256

MLH1 (D38G9) Rabbit mAb

Cell Signaling 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

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

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

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	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

Trademarks and Patents

Limited Uses

any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.