

Store at  
-20C  
#12988**MSH6 (3E1) Mouse mAb**

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

<b>Applications:</b> W, IHC-P, IF-IC	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 160	<b>Source/Isotype:</b> Mouse IgG2a	<b>UniProt ID:</b> #P52701	<b>Entrez-Gene Id:</b> 2956
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**Product Usage Information****Application**

Western Blotting  
Immunohistochemistry (Paraffin)  
Immunofluorescence (Immunocytochemistry)

**Dilution**

1:1000  
1:250 - 1:1000  
1:50 - 1:100

**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.

For a carrier free (BSA and azide free) version of this product see product #98142.

**Specificity/Sensitivity**

MSH6 (3E1) Mouse mAb recognizes endogenous levels of total MSH6 protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a recombinant protein fragment specific to human MSH6 protein expressed in *E.coli*.

**Background**

The DNA mismatch repair system (MMR) repairs post-replication DNA, inhibits recombination between nonidentical DNA sequences, and induces both checkpoint and apoptotic responses following certain types of DNA damage (1). MSH2 (MutS homologue 2) forms the hMutS-α dimer with MSH6 and is an essential component of the mismatch repair process. hMutS-α is part of the BRCA1-associated surveillance complex (BASC), a complex that also contains BRCA1, MLH1, ATM, BLM, PMS2 proteins, and the Rad50-Mre11-NBS1 complex (2). Mutations in MSH6 and other MMR proteins have been found in a large proportion of hereditary nonpolyposis colorectal cancer (Lynch Syndrome), the most common form of inherited colorectal cancer in the Western world (3). Mutations in MSH6 have been shown to occur in glioblastoma in response to temozolomide therapy and to promote temozolomide resistance (4).

**Background References**

1. O'Brien, V. and Brown, R. (2006) *Carcinogenesis* 27, 682-92.
2. Wang, Y. et al. (2000) *Genes Dev* 14, 927-39.
3. Plotz, G. et al. (2006) *J Mol Histol* 37, 271-83.
4. Yip, S. et al. (2009) *Clin Cancer Res* 15, 4622-9.

**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**

**W:** Western Blotting **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry)

**Cross-Reactivity Key**

**H:** Human

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