

**MSH6 Antibody (clone 5B11)**  
**Mouse Monoclonal Antibody**  
**Catalog # ALS16874****Specification**

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**MSH6 Antibody (clone 5B11) - Product Information**

Application	IHC, WB, E
Primary Accession	<a href="#">P52701</a>
Other Accession	<a href="#">2956</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	152786

**MSH6 Antibody (clone 5B11) - Additional Information****Gene ID** 2956**Other Names**

MSH6, GTBP, HSAP, GTMBP, MutS (E. coli) homolog 6, HMSH6, Sperm-associated protein, p160, G/T mismatch-binding protein, HNPCC5, MutS homolog 6 (E. coli), MutS-alpha 160 kDa subunit

**Target/Specificity**

Human MSH6

**Reconstitution & Storage**

Ascites, 0.03% sodium azide. Long term: -20°C; Short term: +4°C; Avoid freeze-thaw cycles.

**Precautions**

MSH6 Antibody (clone 5B11) is for research use only and not for use in diagnostic or therapeutic procedures.

**MSH6 Antibody (clone 5B11) - Protein Information****Name** MSH6 ([HGNC:7329](#))**Synonyms** GTBP**Function**

Component of the post-replicative DNA mismatch repair system (MMR). Heterodimerizes with MSH2 to form MutS alpha, which binds to DNA mismatches thereby initiating DNA repair. When bound, MutS alpha bends the DNA helix and shields approximately 20 base pairs, and recognizes single base mismatches and dinucleotide insertion-deletion loops (IDL) in the DNA. After mismatch binding, forms a ternary complex with the MutL alpha heterodimer, which is thought to be responsible for directing the downstream MMR events, including strand discrimination, excision, and resynthesis. ATP binding and hydrolysis play a pivotal role in mismatch repair functions. The ATPase activity associated with MutS alpha regulates binding similar to a molecular switch:

mismatched DNA provokes ADP→ATP exchange, resulting in a discernible conformational transition that converts MutS alpha into a sliding clamp capable of hydrolysis-independent diffusion along the DNA backbone. This transition is crucial for mismatch repair. MutS alpha may also play a role in DNA homologous recombination repair. Recruited on chromatin in G1 and early S phase via its PWWP domain that specifically binds trimethylated 'Lys-36' of histone H3 (H3K36me3): early recruitment to chromatin to be replicated allowing a quick identification of mismatch repair to initiate the DNA mismatch repair reaction.

#### Cellular Location

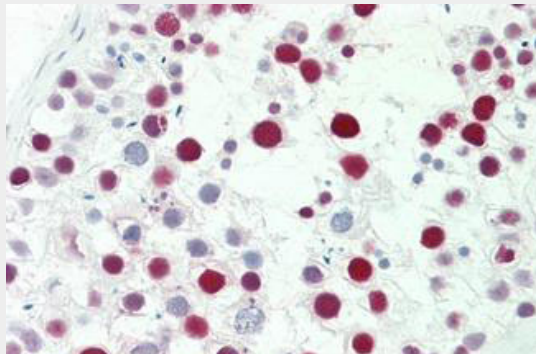
Nucleus. Chromosome. Note=Associates with H3K36me3 via its PWWP domain

#### MSH6 Antibody (clone 5B11) - Protocols

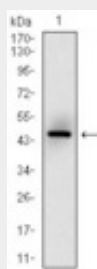
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

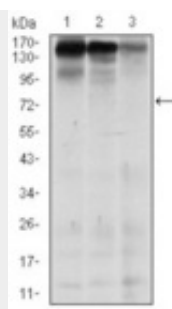
#### MSH6 Antibody (clone 5B11) - Images



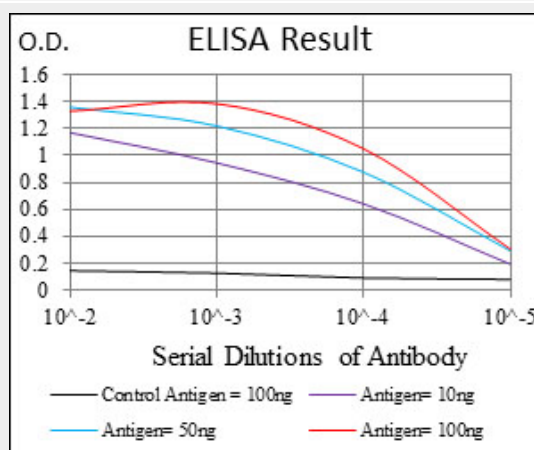
Anti-MSH6 antibody IHC staining of human testis.



Western blot using MSH6 monoclonal antibody against human MSH6 (AA: 217-395) recombinant protein.



Western blot using MSH6 mouse monoclonal antibody against MCF-7 (1), HEK293 (2), and HCT116 (3)...



Red: Control Antigen (100ng); Purple: Antigen (10ng); Green: Antigen (50ng); Blue: Antigen (100ng);

### MSH6 Antibody (clone 5B11) - Background

Component of the post-replicative DNA mismatch repair system (MMR). Heterodimerizes with MSH2 to form MutS alpha, which binds to DNA mismatches thereby initiating DNA repair. When bound, MutS alpha bends the DNA helix and shields approximately 20 base pairs, and recognizes single base mismatches and dinucleotide insertion-deletion loops (IDL) in the DNA. After mismatch binding, forms a ternary complex with the MutL alpha heterodimer, which is thought to be responsible for directing the downstream MMR events, including strand discrimination, excision, and resynthesis. ATP binding and hydrolysis play a pivotal role in mismatch repair functions. The ATPase activity associated with MutS alpha regulates binding similar to a molecular switch: mismatched DNA provokes ADP $\rightarrow$ ATP exchange, resulting in a discernible conformational transition that converts MutS alpha into a sliding clamp capable of hydrolysis-independent diffusion along the DNA backbone. This transition is crucial for mismatch repair. MutS alpha may also play a role in DNA homologous recombination repair. Recruited on chromatin in G1 and early S phase via its PWWP domain that specifically binds trimethylated 'Lys-36' of histone H3 (H3K36me3): early recruitment to chromatin to be replicated allowing a quick identification of mismatch repair to initiate the DNA mismatch repair reaction.

### MSH6 Antibody (clone 5B11) - References

Acharya S.,et al.Proc. Natl. Acad. Sci. U.S.A. 93:13629-13634(1996).  
Shiwaku H.O.,et al.DNA Res. 4:359-362(1997).  
Ota T.,et al.Nat. Genet. 36:40-45(2004).  
Hillier L.W.,et al.Nature 434:724-731(2005).  
Palombo F.,et al.Science 268:1912-1914(1995).