

## MSH6 Antibody

Rabbit mAb Catalog # AP90167

### **Specification**

# MSH6 Antibody - Product Information

Application Primary Accession Reactivity Clonality <b>Other Names</b> MSH6; GTBP; HNPCC5; HSAP; p160;	WB, IHC, ICC <u>P52701</u> Rat Monoclonal
lsotype Host Calculated MW	Rabbit IgG Rabbit 152786 Da
MSH6 Antibody - Additional Information	
Purification Immunogen	Affinity-chromatography A synthesized peptide derived from human MSH6
Description	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. MSH2 (MutS homologue 2) forms the hMutS-α dimer with MSH6 and is an essential component
Storage Condition and Buffer	of the mismatch repair process. Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

## MSH6 Antibody - Protein Information

Name MSH6 (<u>HGNC:7329</u>)

#### 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** 

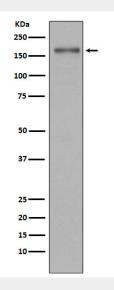
Nucleus. Chromosome. Note=Associates with H3K36me3 via its PWWP domain

### MSH6 Antibody - Protocols

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

- <u>Western Blot</u>
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

MSH6 Antibody - Images



Western blot analysis of MSH6 in SW480 cell lysate.