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MSH6 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10676

Specification

MSH6 Antibody - Product Information

Application	**WB**
Primary Accession	P52701
Other Accession	NP_000170.1
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**152786**

MSH6 Antibody - Additional Information

Gene ID 2956

Application & Usage	**Western blotting (1:500 to 1:2000). However, the optimal concentrations should be determined individually. TK6 cell lysate can be used as a positive control. The antibody recognizes human MSH6. Reactivity to other species has not been tested.**

Other Names
MSH-6, MSH 6, DNA mismatch repair protein Msh6, G/T mismatch-binding protein, GTMBP, GTBP , mutS (E. coli) homolog 6, HNPCC 5, HNPCC5, MSH 6, MSH6

Target/Specificity
MSH6

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µL affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 0.5% BSA and 0.01% thimerosal.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
MSH6 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

MSH6 Antibody - 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 - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

MSH6 Antibody - Images

MSH6 Antibody - 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. 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. 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. Mutations in MSH6 have been shown to occur in glioblastoma in response to temozolomide therapy and to promote temozolomide resistance.