10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

MSH6 Antibody

Rabbit mAb
Catalog # AP90167

Product Information

Application	WB, IHC, IF, ICC, IHF
Primary Accession	P52701
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	MSH6; GTBP; HNPCC5; HSAP; p160;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	152786

Additional Information

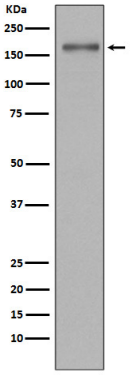
Dilution	WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human MSH6
Description	The DNA mismatch repair system (MMR) repairs post-replication DNA, inhibits recombination between nonidentical DNA sequences, and induces 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 of the mismatch repair process.
Storage Condition and Buffer	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.

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

Images



Western blot analysis of MSH6 in SW480 cell lysate.

Image not found : 202311/AP90167-IHC.jpg

Immunohistochemical analysis of paraffin-embedded human colon carcinoma, using MSH6 Antibody.