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

MSH6 antibody

Mouse Monoclonal Antibody (Mab)
Catalog # AD80540

Product Information

Application	IHC
Primary Accession	P52701
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	465G1H8
Calculated MW	152786

Additional Information

Gene ID	2956
Other Names	DNA mismatch repair protein Msh6, MutS-alpha 160 kDa subunit, p160, MSH6 (HGNC:7329), GTBP
Dilution	IHC~~1:100~500
Storage	Maintain refrigerated at 2-8°C.

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