

Anti-MSH6 Antibody

Catalog # AP95956

Product Information

Application	WB, IHC, FC
Primary Accession	P52701
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Calculated MW	152786

Additional Information

Gene ID	2956
Other Names	GTBP; DNA mismatch repair protein Msh6; hMSH6; G/T mismatch-binding protein; GTBP; GTMBP; MutS-alpha 160 kDa subunit; p160
Target/Specificity	Recombinant fusion protein of human MSH6 expressed in E. Coli
Dilution	WB~~WB (1/500 - 1/1000) IHC~~1:100~500 FC~~FC (1/100 - 1/200)
Format	Mouse IgG1. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

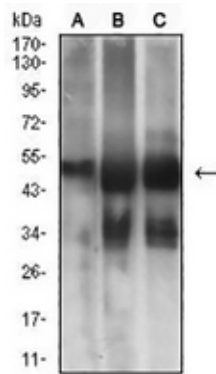
Name	MSH6 (HGNC:7329)
Synonyms	GTBP
Function	Component of the post-replicative DNA mismatch repair system (MMR). Heterodimerizes with MSH2 to form MutS alpha, which binds to DNA mismatches thereby initiating DNA repair. When bound, MutS alpha bends the DNA helix and shields approximately 20 base pairs, 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.

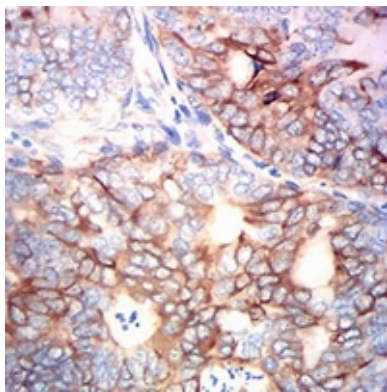
Cellular Location

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

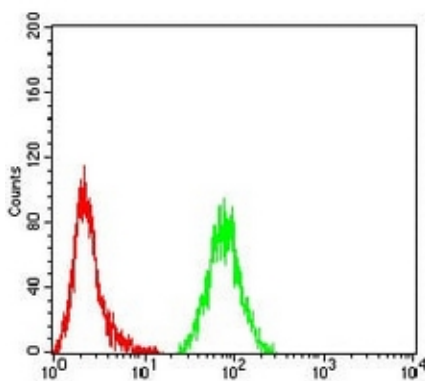
Images



Western blot analysis of MSH6 expression in NIH/3T3 (A), HeLa (B), A549 (C) whole cell lysates. (Predicted band size: 50 kD; Observed band size: 50 kD)



Immunohistochemical analysis of MSH6 staining in human cervical cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Flow cytometric analysis of HeLa cells using Anti-MSH6 Antibody (green) and negative control (red).

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