

Recombinant Mouse Msh2 Protein, Myc/DDK-tagged

Cat. No. Msh2-4186M Lot. No. (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length mutS homolog 2 (Msh2), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	<p>Component of the post-replicative DNA mismatch repair system (MMR). Forms two different heterodimers: MutS alpha (MSH2-MSH6 heterodimer) and MutS beta (MSH2-MSH3 heterodimer) which binds to DNA mismatches thereby initiating DNA repair. When bound, heterodimers bend the DNA helix and shields approximately 20 base pairs. MutS alpha recognizes single base mismatches and dinucleotide insertion-deletion loops (IDL) in the DNA. MutS beta recognizes larger insertion-deletion loops up to 13 nucleotides long. After mismatch binding, MutS alpha or beta 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. Recruits DNA helicase MCM9 to chromatin which unwinds the mismatch containing DNA strand. 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. In melanocytes may</p>

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modulate both UV-B-induced cell cycle regulation and apoptosis.

Molecular Mass 104.2 kDa

Purity > 80% as determined by SDS-PAGE and Coomassie blue staining

Stability Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.

Storage Store at -80 centigrade after receiving vials.

Concentration >50 µg/mL as determined by microplate BCA method

Storage Buffer 25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name Msh2 mutS homolog 2 [*Mus musculus* (house mouse)]

Official Symbol Msh2

Synonyms MSH2; mutS homolog 2 (E. coli); DNA mismatch repair protein Msh2; mutS protein homolog 2; AI788990

Gene ID 17685

mRNA Refseq NM_008628

Protein Refseq NP_032654

UniProt ID P43247

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