

Recombinant Human DNA mismatch repair protein Msh6(MSH6),partial

Catalog No: #AP70564

Package Size: #AP70564-1 20ug #AP70564-2 100ug #AP70564-3 1mg

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Description

Product Name	Recombinant Human DNA mismatch repair protein Msh6(MSH6),partial
Host Species	E.coli
Purification	Greater than 90% as determined by SDS-PAGE.
Immunogen Description	Expression Region:1-400aaSequence Info:Partial
Other Names	G,T mismatch-binding protein ;GTBP ;GTMBPMutS-alpha 160KDA subunit ;p160
Accession No.	P52701
Calculated MW	60.1 kDa
Tag Info	N-terminal 6xHis-SUMO-tagged
Target Sequence	MSRQSTLYSFFPKSPALSDANKASARASREGGRAAAAPGASPSGGDAAWSEAGPGRPLARSASPPKAKN LNGGLRRSVAPAAPTSCDFSPGDLVWAKMEGYWWPCLVYNHPFDGTFIREKGKSVRVHVQFFDDSPTRG WVSKRLLKPYTGSKSKEAQKGGHFYSAKPEILRAMQRADEALNKDKIKRLELAVCDEPSEPEEEEEEMEVTGTY VTDKSEEDNEIESEEEVQPKTQGSRRSSRQIKRRVISDESSEDIGGSDVEFKPDTKEEGSSDEISSGVGDSES EGLNSPVKVARKRKRMVTGNGSLKRKSSRKETPSATKQATSISSETKNTLRAFSAPQNSQAHVSGGGDDSD SRPTVWYHETLEWLKEEKRRDEHRRRPDHPDFDASTLYVPE
Formulation	Tris-based buffer50% glycerol
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C,-80°C. The shelf life of lyophilized form is 12 months at -20°C,-80°C.Notes:Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

Background

Component of the post-replicative DNA mismatch repair syst (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

References

The histone mark H3K36me3 regulates human DNA mismatch repair through its interaction with MutSalpha.Li F., Mao G., Tong D., Huang J., Gu L., Yang W., Li G.M.Cell 153:590-600(2013)Research Topic:Epigenetics and Nuclear Signaling

Note: This product is for in vitro research use only and is not intended for use in humans or animals.