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MSH2 Antibody (Center) Blocking peptide
Synthetic peptide
Catalog # BP11570c

Specification

MSH2 Antibody (Center) Blocking peptide - Product Information

Primary Accession P43246

MSH2 Antibody (Center) Blocking peptide - Additional Information

Gene ID 4436

Other Names
DNA mismatch repair protein Msh2, hMSH2, MutS protein homolog 2, MSH2

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

MSH2 Antibody (Center) Blocking peptide - Protein Information

Name MSH2

Function
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 (PubMed:26300262). 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 modulate both UV-B-induced cell cycle regulation and apoptosis.

Cellular Location
Nucleus. Chromosome

Tissue Location
Ubiquitously expressed.

MSH2 Antibody (Center) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

MSH2 Antibody (Center) Blocking peptide - Images

MSH2 Antibody (Center) Blocking peptide - Background

MSH2 was identified as a locus frequently mutated inhereditary nonpolyposis colon cancer (HNPCC). When cloned, it wasdiscovered to be a human homolog of the E. coli mismatch repairgene mutS, consistent with the characteristic alterations inmicrosatellite sequences (RER+ phenotype) found in HNPCC. [providedby RefSeq].

MSH2 Antibody (Center) Blocking peptide - References

Kim, M., et al. Cancer Sci. 101(11):2436-2442(2010)Mangoni, M., et al. Int. J. Radiat. Oncol. Biol. Phys. (2010) In press :Srivastava, K., et al. Cancer 116(13):3160-3169(2010)van der Post, R.S., et al. J. Med. Genet. 47(7):464-470(2010)Langner, E., et al. J. Genet. 89(1):101-104(2010)