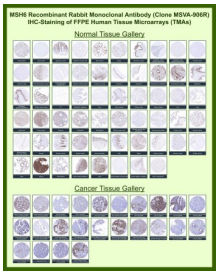
MSH6 Antibody for IHC / MutS homolog 6 Immunohistochemistry Antibody [clone MSVA-906R] (V6083)

Catalog No.	Formulation	Size
V6083-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6083-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-906R
UniProt	P52701
Localization	Chromosome, Nucleus
Applications	Immunohistochemistry (FFPE) : 1:75-1:150
Limitations	This MSH6/MutS homolog 6 antibody is available for research use only.



MSH6 Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of MutS homolog 6 / MSH6 in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using rabbit monoclonal antibody clone MSVA-906R. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates nuclear localization in proliferating epithelial and lymphoid cell populations across multiple tissue types, consistent with the role of MSH6 in the DNA mismatch repair pathway. In normal tissue microarrays, strong nuclear labeling is observed in cells with active DNA replication, while stromal or quiescent cell populations show weaker or absent staining. Within tumor tissue microarrays, variable nuclear staining intensity is detected among tumor epithelial cells, reflecting differences in mismatch repair status. Evaluation across large TMA panels enables direct comparison of MSH6 expression across diverse tissue types under standardized conditions. The observed staining patterns align with reported MSH6 expression profiles in the Human Protein Atlas and support its use as a marker of DNA mismatch repair activity.

Description

MutS homolog 6 (MSH6), encoded by the MSH6 gene, is a nuclear DNA mismatch repair protein that plays a central role in maintaining genomic stability. MSH6 Antibody for IHC MSVA-906R recognizes this DNA repair factor, which forms a heterodimer with MutS homolog 2 (MSH2) to create the MutSalpha complex responsible for detecting single base mismatches and small insertion-deletion loops that arise during DNA replication. This mismatch recognition step is essential for initiating the DNA mismatch repair pathway, a highly conserved mechanism that corrects replication errors and preserves genomic integrity in proliferating cells.

In immunohistochemistry studies, MSH6 Antibody for IHC MSVA-906R is particularly valuable for evaluating nuclear expression of the MSH6 protein in formalin-fixed, paraffin-embedded tissue sections. MSH6 is predominantly localized within the cell nucleus, where it participates directly in mismatch repair processes during DNA replication and cell division. IHC staining for MSH6 therefore typically demonstrates strong nuclear labeling in proliferating epithelial cells and other actively dividing cell populations. Because the protein functions within the nucleus, immunohistochemical detection is characterized by distinct nuclear staining patterns rather than cytoplasmic or membranous signal.

The MSH6 gene is located on chromosome 2p16 and encodes a protein belonging to the MutS family of DNA repair enzymes. Together with MSH2, the MSH6 protein recognizes mismatched nucleotides and recruits additional repair factors including MLH1 and PMS2 to initiate excision and repair of the damaged DNA strand. Loss or dysfunction of components of this mismatch repair system can lead to accumulation of replication errors, genomic instability, and increased susceptibility to tumor development.

Because of its role in the mismatch repair pathway, MSH6 protein expression is frequently examined in pathology and cancer research using immunohistochemistry. In tumor tissue sections, evaluation of nuclear staining patterns can help determine whether MSH6 protein expression is preserved or lost within tumor cells. Loss of nuclear MSH6 expression may indicate defects in mismatch repair pathways and is commonly investigated in studies of colorectal carcinoma, endometrial carcinoma, and other malignancies associated with mismatch repair deficiency. Consequently, IHC analysis using MSH6 antibodies is widely applied in research exploring DNA repair biology, tumor development, and genomic instability in human cancers.

MSH6 is also referred to in the literature as MutS homolog 6, MutS protein homolog 6, and GTBP (G/T mismatch-binding protein). These commonly used synonyms reflect the protein's function as part of the DNA mismatch recognition machinery that safeguards genome fidelity during DNA replication. A recombinant rabbit monoclonal MSH6 antibody such as clone MSVA-906R enables clear visualization of nuclear MSH6 expression in tissue sections and is suitable for research applications involving immunohistochemical detection of mismatch repair proteins in human tissues.

This antibody is also part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

Application Notes

1. Optimal dilution of the MSH6 antibody for IHC MSVA-906R should be determined by the researcher.

2. This MSH6/MutS homolog 6 antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

A recombinant fragment (around amino acids 1-100) of human MSH6 protein (exact sequence is proprietary) was used as the immuongen for the MSH6/MutS homolog 6 antibody.

Storage

MSH6/MutS homolog 6 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.