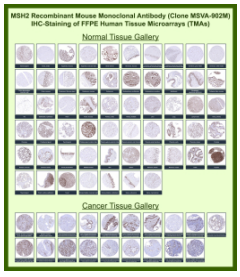
MSH2 Antibody for IHC / MutS homolog 2 Immunohistochemistry Antibody [clone MSVA-902M] (V6099)

Catalog No.	Formulation	Size
V6099-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6099-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant | MOUSE MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG2a, kappa
Clone Name	MSVA-902M
UniProt	IDP43246
Localization	Chromosome, Nucleus
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This MSH2 Antibody for IHC / MutS homolog 2 Immunohistochemistry Antibody is available for research use only.



MSH2 Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of MutS homolog 2 / MSH2 in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using mouse monoclonal antibody clone MSVA-902M. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates nuclear localization in cells with intact DNA mismatch repair activity across multiple tissue types, while stromal and quiescent cell populations may show reduced or absent staining. Within tumor tissue microarrays, nuclear staining patterns provide reference for mismatch repair status, with variable expression observed among different malignancies. Evaluation across large TMA panels enables direct comparison of MSH2 expression across diverse tissue types under standardized conditions. The observed staining patterns align with reported expression profiles in the Human Protein Atlas and support its use as a marker of DNA mismatch repair function.

Description

MutS homolog 2 (MSH2) is a nuclear DNA mismatch repair protein encoded by the MSH2 gene and is a central

component of the cellular machinery responsible for maintaining genomic stability. MSH2 Antibody for IHC is designed for immunohistochemical detection of MutS homolog 2 / MSH2 in tissue sections, enabling visualization of nuclear expression patterns associated with DNA mismatch repair activity. MSH2 forms heterodimeric complexes with other mismatch repair proteins, including MSH6 and MSH3, allowing recognition and correction of base-base mismatches and insertion-deletion loops that occur during DNA replication. Because this repair pathway is essential for preserving genomic integrity, MSH2 expression is widely studied in cancer biology and tumor diagnostics.

MSH2 antibody, also referred to as MutS homolog 2 antibody or hMSH2 antibody in the literature, detects a nuclear protein that is broadly expressed in proliferating epithelial tissues and lymphoid cells. In immunohistochemistry applications, MSH2 staining typically appears as distinct nuclear labeling in cells with intact mismatch repair activity. MSH2 Antibody for IHC is therefore particularly useful for evaluating DNA mismatch repair status in tissue specimens, as loss of nuclear staining in tumor cells may indicate mismatch repair deficiency while surrounding non-neoplastic cells retain nuclear positivity and serve as internal controls.

Immunohistochemistry analysis using MSH2 Antibody for IHC plays a critical role in research and pathology studies examining mismatch repair deficiency and microsatellite instability. Loss of MSH2 expression has been strongly associated with hereditary cancer syndromes such as Lynch syndrome as well as a subset of sporadic colorectal, endometrial, and other carcinomas. Because of this biological significance, detection of MSH2 protein expression in formalin-fixed paraffin-embedded tissues is widely used to investigate tumor biology, genomic instability, and DNA repair mechanisms.

MSH2 Antibody for IHC (clone MSVA-902M) has been tested on many normal and cancer tissues, demonstrating nuclear immunohistochemical staining patterns that align with expression data reported in the Human Protein Atlas. This recombinant mouse monoclonal antibody provides a reliable reagent for immunohistochemistry studies evaluating mismatch repair protein expression, nuclear DNA repair pathways, and tumor-associated alterations in MSH2 expression.

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 MSH2 Antibody for IHC / MutS homolog 2 Immunohistochemistry Antibody should be determined by the researcher.

2. This MSH2 / MutS homolog 2 antibody is recombinantly produced by expression in CHO 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

Recombinant full-length human MSH2 protein was used as the immunogen for the MSH2 / MutS homolog 2 antibody.

Storage

MSH2 / MutS homolog 2 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

MutS homolog 2 antibody, DNA mismatch repair protein MSH2 antibody, hMSH2 antibody, MSH2 mismatch repair antibody