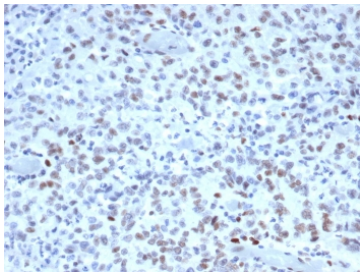
MutS homolog 2 Antibody / MSH2 [clone MSH2/3165] (V4892)

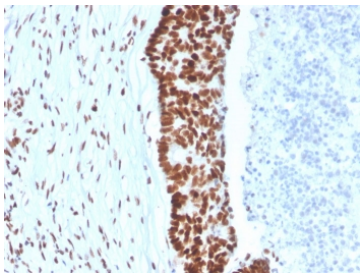
Catalog No.	Formulation	Size
V4892-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4892-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4892SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

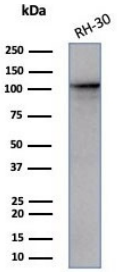
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2, kappa
Clone Name	MSH2/3165
Purity	Protein A/G affinity
UniProt	P43246
Localization	Nucleus
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This MutS homolog 2 antibody is available for research use only.



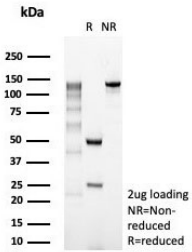
MutS homolog 2 Antibody (clone MSH2/3165) / MSH2 Antibody. Immunohistochemistry analysis of FFPE human colon tissue from a Lynch syndrome patient using MutS homolog 2 antibody (clone MSH2/3165). Nuclear brown chromogenic staining identifies MutS homolog 2 / MSH2-positive cells within the tissue, while surrounding stromal and inflammatory cells serve as internal reference staining. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 minutes followed by cooling prior to staining.



MutS homolog 2 Antibody (clone MSH2/3165) / MSH2 Antibody. Immunohistochemistry analysis of FFPE human colon tissue using MutS homolog 2 antibody (clone MSH2/3165). Strong nuclear brown chromogenic staining highlights MutS homolog 2 / MSH2-positive epithelial cells within the colonic mucosa, consistent with the expected nuclear localization of this DNA mismatch repair protein. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 minutes followed by cooling prior to staining.



MutS homolog 2 Antibody (clone MSH2/3165) / MSH2 Antibody. Western blot analysis of human RH30 cell lysate using MutS homolog 2 antibody (clone MSH2/3165). A band is detected at approximately 105 kDa, consistent with the predicted molecular weight of MutS homolog 2 / MSH2.



SDS-PAGE analysis of purified, BSA-free MutS homolog 2 antibody (clone MSH2/3165) as confirmation of integrity and purity.

Description

MutS homolog 2 (MSH2) is a nuclear DNA mismatch repair protein encoded by the MSH2 gene and functions as a central component of the mismatch repair pathway responsible for maintaining genomic integrity. MutS homolog 2 Antibody (clone MSH2/3165) recognizes MutS homolog 2 / MSH2 and supports detection of this essential DNA repair protein in studies examining genomic stability, DNA replication fidelity, and tumor biology. 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 generated during DNA replication.

MutS homolog 2 antibody, also referred to as MSH2 antibody or hMSH2 antibody in the literature, detects a nuclear protein that participates directly in DNA mismatch repair complexes. Within the nucleus, MSH2 acts as a recognition factor that initiates repair of mismatched DNA by recruiting additional proteins required for excision and resynthesis of damaged strands. Because this repair mechanism protects cells from mutation accumulation, MSH2 expression is widely studied in investigations of genomic maintenance and cancer development.

Alterations in MSH2 expression or function can lead to defects in mismatch repair pathways, resulting in increased mutation rates and microsatellite instability. Loss of MSH2 activity has been strongly associated with hereditary cancer syndromes such as Lynch syndrome and is also observed in certain sporadic tumors. As a result, detection of MSH2 protein expression is frequently used to investigate DNA repair deficiency, tumor biology, and genomic instability in research studies of cancer and cell cycle regulation.

MutS homolog 2 Antibody (clone MSH2/3165) enables analysis of MSH2 expression and localization in biological samples where mismatch repair activity and genomic stability are under investigation. Identification of MSH2-positive cells can provide insight into DNA repair pathway integrity and cellular responses to genomic damage. This mouse monoclonal antibody provides a reliable reagent for research examining mismatch repair proteins, genome maintenance mechanisms, and tumor-associated alterations in DNA repair pathways.

Application Notes

Optimal dilution of the MutS homolog 2 antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 300-500) from the human protein was used as the immunogen for the MutS homolog 2 antibody.

Storage

Aliquot the MutS homolog 2 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

MSH2 antibody, DNA mismatch repair protein MSH2 antibody, hMSH2 antibody, MSH2 mismatch repair antibody