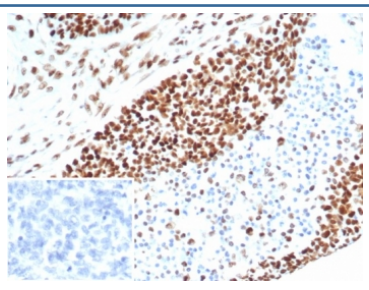
MSH6 Antibody Recombinant Rabbit MAb MSH6/7064R / GTBP [clone MSH6/7064R] (V4878)

Catalog No.	Formulation	Size
V4878-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4878-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4878SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

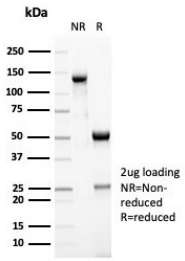
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSH6/7064R
Purity	Protein A/G affinity
UniProt	P52701
Localization	Nucleus
Applications	ELISA (Order BSA-free Format For Coating) : Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This MSH6 antibody is available for research use only.



Immunohistochemistry analysis of MSH6 antibody in human ovarian carcinoma tissue. MSH6 Antibody Recombinant Rabbit MAb MSH6/7064R was used for immunohistochemistry on FFPE human ovarian carcinoma tissue. Distinct HRP-DAB brown nuclear staining is observed in tumor epithelial cells, consistent with the nuclear localization of MutS homolog 6 (MSH6), a DNA mismatch repair protein involved in recognition of replication errors during DNA synthesis. The tumor cell nuclei demonstrate strong positive staining, while surrounding stromal cells show minimal or absent signal. The inset panel shows the negative control in which PBS was used in place of the primary antibody, confirming the specificity of the staining. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min followed by cooling prior to immunostaining.



SDS-PAGE analysis of purified, BSA-free MSH6 antibody rabbit monoclonal (clone MSH6/7064R) as confirmation of integrity and purity.

Description

MutS homolog 6 (MSH6), encoded by the MSH6 gene, is a nuclear DNA mismatch repair protein that plays an essential role in maintaining genomic stability during DNA replication. MSH6 Antibody Recombinant Rabbit MAb MSH6/7064R recognizes this key DNA repair factor, which is widely referred to in the literature as MutS homolog 6, GTBP, or G/T mismatch-binding protein. MSH6 functions as a central component of the MutSalpha complex formed with MutS homolog 2 (MSH2). This heterodimer detects base-base mismatches and small insertion-deletion loops generated during DNA replication, initiating the mismatch repair pathway that corrects replication errors and preserves genome integrity.

Within the DNA mismatch repair system, MSH6 is responsible for recognizing mismatched nucleotides and binding to abnormal DNA structures. Following mismatch recognition, the MutSalpha complex recruits downstream repair proteins including MLH1 and PMS2, which coordinate excision of the incorrect DNA strand and synthesis of the corrected sequence. This highly conserved repair mechanism is critical for preventing accumulation of mutations during cell division and ensuring fidelity of the genome across successive replication cycles.

The MSH6 gene is located on chromosome 2p16 and encodes a member of the MutS family of DNA repair proteins. The protein is predominantly localized within the cell nucleus, where DNA replication and repair processes occur. Because of this nuclear function, detection of MSH6 expression in tissue-based studies typically reveals distinct nuclear staining patterns in proliferating cells. Epithelial tissues, lymphoid populations, and other rapidly dividing cell types often demonstrate prominent nuclear expression reflecting active DNA replication and repair activity.

Alterations in the mismatch repair pathway have been strongly associated with genomic instability and tumor development. Loss of MSH6 expression contributes to mismatch repair deficiency and microsatellite instability, which are molecular features observed in several cancer types. Mutations in the MSH6 gene have been linked to hereditary cancer syndromes including Lynch syndrome and are frequently investigated in colorectal carcinoma, endometrial carcinoma, and other malignancies. Because of this biological significance, detection of MSH6 protein expression is widely used in research examining DNA repair pathways, genomic instability, and tumor biology.

Several well-established literature synonyms exist for this mismatch repair protein, including MutS homolog 6, GTBP, and G/T mismatch-binding protein. These alternate names reflect the protein's role in recognizing G/T mismatches during DNA replication. A recombinant rabbit monoclonal antibody such as clone MSH6/7064R enables reliable detection of nuclear MSH6 expression in research applications investigating DNA mismatch repair mechanisms and genomic stability.

Application Notes

Optimal dilution of the MSH6 antibody recombinant rabbit mAb MSH6/7064Rshould be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 374-540) from the human protein was used as the immunogen for the MSH6 antibody.

Storage

Aliquot the MSH6 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.