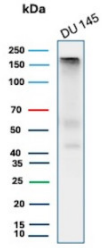
MSH6 Antibody Rabbit Monoclonal MSH6/8338R / G/T mismatch-binding protein [clone MSH6/8338R] (V4879)

Catalog No.	Formulation	Size
V4879-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4879-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4879SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

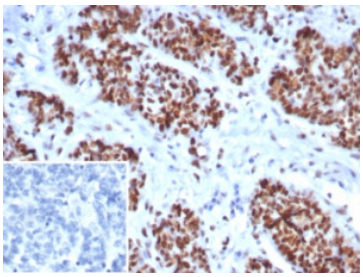
Recombinant RABBIT MONOCLONAL

Bulk quote request

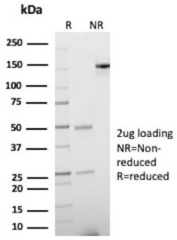
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSH6/8338R
Purity	Protein A/G affinity
UniProt	P52701
Localization	Nucleus
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT Western blot: 2-4ug/ml
Limitations	This MSH6 antibody is available for research use only.



MSH6 Antibody Rabbit Monoclonal MSH6/8338R in Human DU145 Prostate Cancer Cells WB. Western blot testing of MSH6 Antibody Rabbit Monoclonal MSH6/8338R / G/T mismatch-binding protein in human DU145 prostate cancer cell lysate. A prominent band is detected at approximately 160 kDa, consistent with the predicted molecular weight of MSH6. This MSH6 Antibody demonstrates detection of G/T mismatch-binding protein in human prostate cancer cells.



Immunohistochemistry analysis of MSH6 antibody in human ovarian cancer tissue. MSH6 Antibody Rabbit Monoclonal MSH6/8338R was used for immunohistochemistry on FFPE human ovarian carcinoma tissue. Strong HRP-DAB brown nuclear staining is observed in malignant epithelial cells, consistent with the nuclear localization of MutS homolog 6 (MSH6), a key DNA mismatch repair protein involved in recognition of replication errors. Tumor cell nuclei show prominent positive staining, while surrounding stromal elements display minimal signal. The inset panel shows the negative control in which PBS was used in place of the primary antibody, demonstrating absence of nuclear 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.



MSH6 Antibody Rabbit Monoclonal MSH6/8338R Purity Analysis by SDS-PAGE. Electrophoretic analysis of purified MSH6 Antibody Rabbit Monoclonal MSH6/8338R / G/T mismatch-binding protein under reducing (R) and non-reducing (NR) conditions with 2 ug of antibody loaded per lane. The reduced sample shows bands at approximately 50 and 25 kDa, corresponding to the antibody heavy and light chains, while the non-reduced sample shows intact antibody at approximately 150 kDa. This analysis confirms the purity and integrity of the MSH6 Antibody preparation.

Description

MutS homolog 6 (MSH6), encoded by the MSH6 gene, is a nuclear DNA mismatch repair protein that plays a critical role in preserving genomic integrity during DNA replication. MSH6 Antibody Rabbit Monoclonal MSH6/8338R recognizes this essential 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 part of the MutSalpha heterodimer formed with MutS homolog 2 (MSH2). This complex is responsible for detecting base-base mismatches and small insertion-deletion loops that arise during DNA replication, thereby initiating the DNA mismatch repair pathway that corrects replication errors and maintains genome stability.

Within the mismatch repair system, MSH6 serves as the primary mismatch recognition component of the MutSalpha complex. After detecting DNA mismatches, the complex recruits downstream repair proteins including MLH1 and PMS2, which coordinate excision of the incorrect DNA strand followed by DNA resynthesis. Through this highly conserved pathway, MSH6 contributes to the fidelity of DNA replication and protects cells from accumulating mutations that can lead to genomic instability.

The MSH6 gene is located on chromosome 2p16 and encodes a protein belonging to the MutS family of DNA repair enzymes. The protein is localized predominantly within the cell nucleus where DNA replication and repair occur. Because of this nuclear function, detection of MSH6 protein in tissue-based studies typically shows nuclear staining patterns within proliferating cells. MSH6 expression is particularly evident in epithelial tissues and lymphoid cell populations that undergo frequent cell division.

Defects in the mismatch repair pathway have been strongly associated with tumor development and microsatellite instability in multiple cancer types. Loss of MSH6 expression contributes to mismatch repair deficiency, a condition characterized by accumulation of DNA replication errors. Alterations in the MSH6 gene have been linked to hereditary cancer syndromes such as Lynch syndrome and are frequently investigated in colorectal carcinoma, endometrial carcinoma, and other malignancies. Consequently, detection of MSH6 protein expression is widely used in research focused on genomic stability, DNA repair mechanisms, and tumor biology.

Several commonly used 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 function in recognizing G/T mismatches during DNA replication and repair. A rabbit monoclonal antibody such as clone MSH6/8338R enables sensitive and specific detection of MSH6 expression in research applications investigating DNA mismatch repair pathways and genomic

stability.

For a protein microarray-validated reagent and additional information on mismatch repair and genomic stability, visit our MSH6 Antibody / DNA Mismatch Repair Protein Antibody page.

Application Notes

Optimal dilution of the MSH6 antibody rabbit monoclonal MSH6/8338R should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 1-200) from the human protein was used as the immunogen for the rabbit monoclonal MSH6 antibody.

Storage

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

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