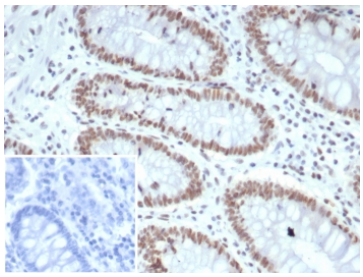
MutL Homolog 1 Antibody / MLH1 [clone MLH1/7562] (V4970)

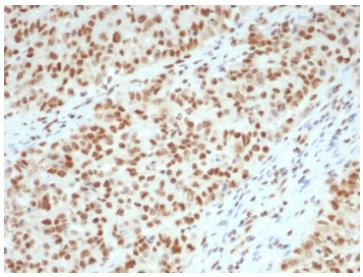
Catalog No.	Formulation	Size
V4970-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4970-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4970SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

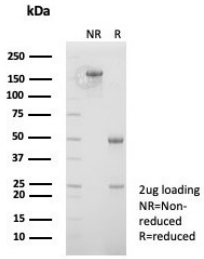
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	MLH1/7562
Purity	Protein A/G affinity
UniProt	P40692
Localization	Nucleus
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This MutL Homolog 1 antibody is available for research use only.



IHC staining of FFPE human colon tissue with MutL Homolog 1 antibody (clone MLH1/7562). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



IHC staining of FFPE human colon tissue with Lynch disease with MutL Homolog 1 antibody (clone MLH1/7562). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



SDS-PAGE analysis of purified, BSA-free MutL Homolog 1 antibody (clone MLH1/7562) as confirmation of integrity and purity.

Description

This mAb recognizes a protein of 83kDa, identified as MLH1. Defects in MLH1 are the cause of hereditary non-polyposis colorectal cancer type 2 (HNPCC2). Heterodimerizes with PMS2 to form MutL alpha, a component of the post-replicative DNA mismatch repair system (MMR). DNA repair is initiated by MutS alpha (MSH2-MSH6) or MutS beta (MSH2-MSH6) binding to a dsDNA mismatch, then MutL alpha is recruited to the heteroduplex. Assembly of the MutL-MutS-heteroduplex ternary complex in presence of RFC and PCNA is sufficient to activate endonuclease activity of PMS2. It introduces single-strand breaks near the mismatch and thus generates new entry points for the exonuclease EXO1 to degrade the strand containing the mismatch. DNA methylation would prevent cleavage and therefore assure that only the newly mutated DNA strand is going to be corrected. MutL alpha (MLH1-PMS2) interacts physically with the clamp loader subunits of DNA polymerase III, suggesting that it may play a role to recruit the DNA polymerase III to the site of the MMR. Also implicated in DNA damage signaling, a process, which induces cell cycle arrest and can lead to apoptosis in case of major DNA damages. Heterodimerizes with MLH3 to form MutL gamma, which plays a role in meiosis.

Application Notes

Optimal dilution of the MutL Homolog 1 antibody should be determined by the researcher.

Immunogen

Recombinant full-length human MLH1 protein was used as the immunogen for the MutL Homolog 1 antibody.

Storage

Aliquot the MutL Homolog 1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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