

PRODUCT INFORMATION



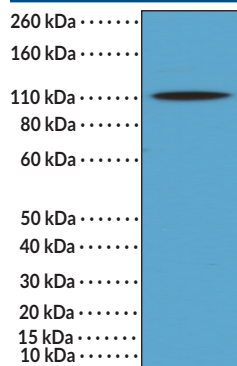
MSH2 Rabbit Monoclonal Antibody (Clone RM375)

Item No. 32300

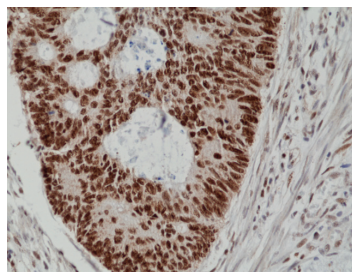
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	DNA Mismatch Repair Protein MSH2, HNPCC1, MutS Homolog 2
Immunogen:	Recombinant peptide within 500 amino acids of the N-terminus of human MSH2
Cross Reactivity:	(+) MSH2
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM375
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:200-1:1,000 for IHC and 1:400-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of HeLa cell lysate using MSH2 Rabbit Monoclonal Antibody (Clone RM375) at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human colon cancer tissue using MSH2 Rabbit Monoclonal Antibody (Clone RM375) at a dilution of 1:200.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/20/2024

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION



Description

MutS homolog 2 (MSH2) is a DNA repair protein.¹ It heterodimerizes with MSH6 or MSH3 to form the MutSa and MutS β DNA mismatch recognition complexes, respectively, which are divided into five domains: a mismatch-binding domain, connector domain, α -helical lever domain, clamp domain, and an ABC-ATPase domain.^{1,2} It is ubiquitously expressed and localized to the nucleus.^{1,2} MSH2, when complexed with MSH6 or MSH3, recognizes DNA polymerase errors in replicated DNA to activate MutL and initiate DNA repair. Missense mutations in *MSH2* are associated with hereditary nonpolyposis colorectal cancer (HNPCC).^{1,3} Polymorphisms in *MSH2* are associated with an increased risk of developing prostate cancer.⁴ Cayman's MSH2 Rabbit Monoclonal Antibody (Clone RM375) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Kumar, D.T., Susmita, B., Judith, E., *et al.* Elucidating the role of interacting residues of the MSH2-MSH6 complex in DNA repair mechanism: A computational approach. *Advances in Protein Chemistry and Structural Biology*. Donev, R., editor, 1st edition, *Academic Press* (2019).
2. Guo, J., Gu, L., Leffak, M., *et al.* MutS β promotes trinucleotide repeat expansion by recruiting DNA polymerase β to nascent (CAG)_n or (CTG)_n hairpins for error-prone DNA synthesis. *Cell Res.* **26(7)**, 775-786 (2016).
3. Warren, J.J., Pohlhaus, T.J., Changela, A., *et al.* Structure of the human MutSa DNA lesion recognition complex. *Mol. Cell* **26(4)**, 579-592 (2007).
4. Zhen, J.T., Syed, J., Nguyen, K.A., *et al.* Genetic testing for hereditary prostate cancer: Current status and limitations. *Cancer* **124(15)**, 3105-3117 (2018).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM