PRODUCT INFORMATION

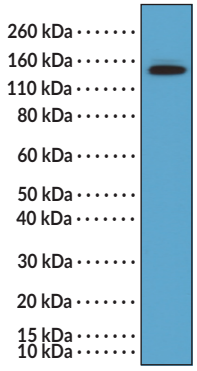
MSH6 Rabbit Monoclonal Antibody (Clone RM376)

Item No. 32301

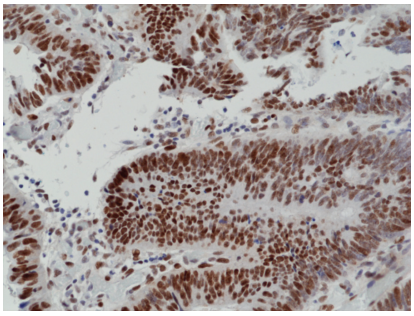
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	DNA Mismatch Repair MSH6, MutS Homolog 6
Immunogen:	Peptide corresponding to human MSH6
Cross Reactivity:	(+) MSH6
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:	RM376
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100-1:500 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of HEK293 cell lysate using MSH6 Rabbit Monoclonal Antibody (Clone RM376) at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human colon cancer tissue using MSH6 Rabbit Monoclonal Antibody (Clone RM376) at a dilution of 1:100.

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Description

MutS homolog 6 (MSH6) is a DNA repair protein.[1] It heterodimerizes with MSH2 to form the MutSα DNA mismatch recognition complex, 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. MSH6, when complexed with MSH2, recognizes DNA polymerase errors in replicated DNA to activate MutL and initiate DNA repair. Missense mutations in *MSH6* are associated with hereditary nonpolyposis colorectal cancer (HNPCC), as well as endometrial and non-hereditary colon cancers.[1,3] Polymorphisms in *MSH6* are associated with an increased risk of developing prostate cancer.[4] Cayman's MSH6 Rabbit Monoclonal Antibody (Clone RM376) 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.* MutSβ 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 MutSα 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).

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