

# PRODUCT INFORMATION



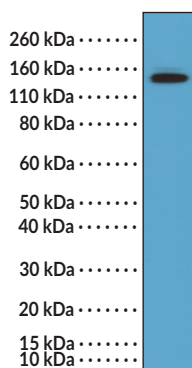
## MSH6 Rabbit Monoclonal Antibody (Clone RM376)

Item No. 32301

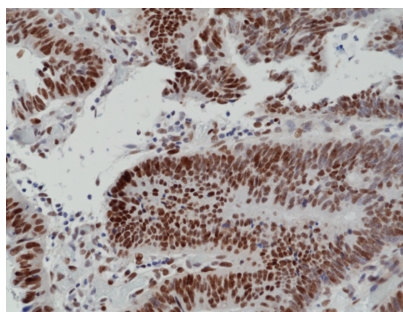
### Overview and Properties

<b>Contents:</b>	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	DNA Mismatch Repair MSH6, MutS Homolog 6
<b>Immunogen:</b>	Peptide corresponding to human MSH6
<b>Cross Reactivity:</b>	(+) MSH6
<b>Species Reactivity:</b>	(+) Human
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS, with 50% glycerol, 1% BSA, and 0.09% sodium azide
<b>Clone:</b>	RM376
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	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.

**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**  
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## Description

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MutS homolog 6 (MSH6) is a DNA repair protein.<sup>1</sup> It heterodimerizes with MSH2 to form the MutSa DNA mismatch recognition complex, which are divided into five domains: a mismatch-binding domain, connector domain,  $\alpha$ -helical lever domain, clamp domain, and an ABC-ATPase domain.<sup>1,2</sup> 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.<sup>1,3</sup> Polymorphisms in *MSH6* are associated with an increased risk of developing prostate cancer.<sup>4</sup> Cayman's MSH6 Rabbit Monoclonal Antibody (Clone RM376) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

## References

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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, 1<sup>st</sup> edition, *Academic Press* (2019).
2. Guo, J., Gu, L., Leffak, M., *et al.* MutS $\beta$  promotes trinucleotide repeat expansion by recruiting DNA polymerase  $\beta$  to nascent (CAG)<sub>n</sub> or (CTG)<sub>n</sub> 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).