

Anti-PMS2 (MOUSE) Monoclonal Antibody
PMS2 Antibody
Catalog # ASR4162**Specification**

Anti-PMS2 (MOUSE) Monoclonal Antibody - Product Information

Host	Mouse
Conjugate	Unconjugated
Target Species	Human
Reactivity	Human
Clonality	Monoclonal
Application	WB, E, I, LCI
Application Note	Anti-PMS2 antibody has been tested for use in ELISA and western blotting. This product is suitable for immunoprecipitation. Specific conditions for western blotting reactivity should be optimized by the end user. Expect a band approximately 96 kDa in size corresponding to human PMS2 by western blotting in most cell lines and tissues as PMS2 is ubiquitously expressed.
Physical State	Liquid (sterile filtered)
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	This protein A purified monoclonal antibody was produced by repeated immunizations with recombinant human PMS2 corresponding to the first 133 amino acid residues of the protein. The clone was produced using conventional hybridoma technology.
Preservative	0.01% (w/v) Sodium Azide

Anti-PMS2 (MOUSE) Monoclonal Antibody - Additional Information**Gene ID** 5395**Other Names**
5395**Purity**

This is an protein A purified antibody from ascites fluid directed against PMS2-134 and reacts with full length version of PMS2 in human and hamster tissues. The epitope was putatively mapped to amino acids 58-81 of human PMS2. BLAST analysis indicates that this sequence is 100% identical for human, mouse, rat and chimpanzee. No specific information is available for reactivity with PMS2 protein from other sources.

Storage Condition

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended

storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note

This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-PMS2 (MOUSE) Monoclonal Antibody - Protein Information

Name PMS2 ([HGNC:9122](#))

Function

Component of the post-replicative DNA mismatch repair system (MMR) (PubMed:30653781, PubMed:35189042). Heterodimerizes with MLH1 to form MutL alpha. DNA repair is initiated by MutS alpha (MSH2-MSH6) or MutS beta (MSH2-MSH3) 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. Possesses an ATPase activity, but in the absence of gross structural changes, ATP hydrolysis may not be necessary for proficient mismatch repair (PubMed:35189042).

Cellular Location

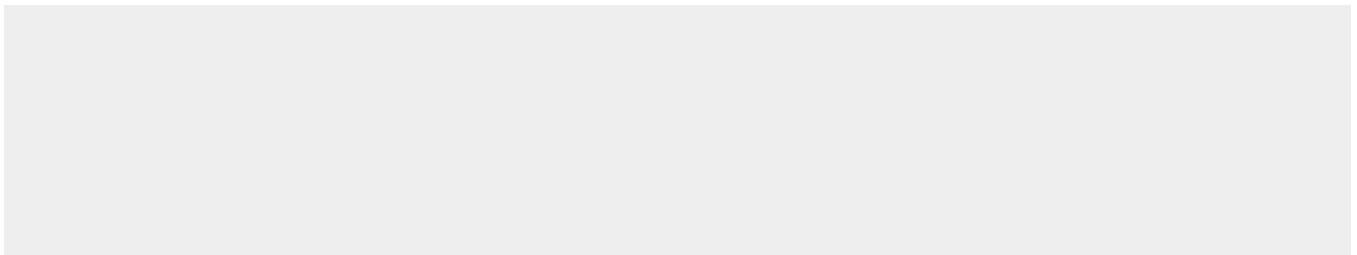
Nucleus

Anti-PMS2 (MOUSE) Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-PMS2 (MOUSE) Monoclonal Antibody - Images





96 kDa →

Western blot analysis is shown using Rockland's Protein A Purified Mouse Monoclonal Anti-PMS2 antibody to detect human PMS2 protein present in H157 cell lysates. Approximately 5, 10 and 30 ug of cell lysate was loaded on a 4-12% NuPage SDS-PAGE gel using MES buffer. The blot was incubated with a 1:1,000 dilution of the antibody at room temperature followed by washing. A 1:20,000 dilution of HRP conjugated Gt-anti-Mouse IgG preceded color development using Pierce Chemical's SuperSignal™ substrate. Comparison to a molecular weight marker (not shown) indicates a single band of ~96.0 kDa corresponding to the expected molecular weight for human PMS2 protein. Other detection systems will yield similar results. Personal communication Morphotek Inc.

Anti-PMS2 (MOUSE) Monoclonal Antibody - Background

PMS2 is a highly conserved nuclear protein involved in mismatch repair during DNA replication and has been identified to be composed as a heterodimer of PMS2 and MLH1. PMS is part of the BRCA1-associated genome surveillance complex (BASC), which contains BRCA1, MSH2, MSH6, MLH1, ATM, BLM, PMS2 and the RAD50-MRE11-NBS1 protein complex. This association could be a dynamic process changing throughout the cell cycle and within subnuclear domains. Defects in PMS2 are the cause of hereditary non-polyposis colorectal cancer type 4 (HNPCC4), Turcot syndrome (an autosomal dominant disorder characterized by malignant tumors of the brain associated with multiple colorectal adenomas) and supratentorial primitive neuroectodermal tumors with cafe-au-lait spots (SNTCL). The human PMS2 gene encodes an 862 aa, 96 kDa polypeptide.