

Mouse Anti-PMS2 antibody

SLM-34140M

Product Name PMS2

Chinese Name Tumour 错配修复基因 PMS2 单克隆抗体

Alias DNA mismatch repair protein PMS2; Mismatch repair endonuclease PMS2; Mismatch repair gene PMSL2; PMS2 postmeiotic segregation increased 2 (*S. cerevisiae*); PMS2_HUMAN; Postmeiotic segregation increased, *S. cerevisiae*, 2; DNA mismatch repair gene homologue; H_DJ0042M02.9; HNPCC4; PMS 2; PMS1 protein homolog 2; PMS2 postmeiotic segregation increased 2; PMS2CL; PMSL2.

Immunogen Species Mouse

Clonality Monoclonal

Clone NO. 7A11

React Species Mouse,Rat(predicted:Human)

Applications IHC-P=1:100-500, IHC-F=1:100-500, IF=1:100-500
optimal dilutions/concentrations should be determined by the end user.

Theoretical molecular weight 103kDa

Cellular localization The nucleus

Form Lyophilized or Liquid

Concentration 1mg/ml

immunogen KLH conjugated synthetic peptide derived from human PMS2

Lsotype IgG

Purification affinity purified by Protein A

Buffer Solution Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.151% sodium azide.

Storage Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.

Attention This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

PubMed [PubMed](#)

This gene is one of the PMS2 gene family members found in clusters on chromosome 7. The product of this gene is involved in DNA mismatch repair. It forms a heterodimer with MLH1 and this complex interacts with other complexes bound to mismatched bases. Mutations in this gene are associated with hereditary nonpolyposis colorectal cancer, Turcot syndrome, and are a cause of supratentorial primitive neuroectodermal tumors. Alternatively spliced transcript variants have been observed for this gene. [provided by RefSeq, Jul 2008].

Function:

Component of the post-replicative DNA mismatch repair system (MMR). 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.

**Product
Detail**

Subunit:

Heterodimer of PMS2 and MLH1 (MutL alpha). Forms a ternary complex with MutS alpha (MSH2-MSH6) or MutS beta (MSH2-MSH3). 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. Interacts with MTMR15/FAN1.

Subcellular Location:

Nucleus.

DISEASE:

Hereditary non-polyposis colorectal cancer 4 (HNPCC4) [MIM:614337]: An autosomal dominant disease associated with marked increase in cancer susceptibility. It is characterized by a familial predisposition to early-onset colorectal carcinoma (CRC) and extra-colonic tumors of the gastrointestinal, urological and female reproductive tracts. HNPCC is reported to be the most common form of inherited colorectal cancer in the Western world. Clinically, HNPCC is often divided into two subgroups. Type I is characterized by hereditary predisposition to colorectal cancer, a young age of onset, and carcinoma observed in the proximal colon. Type II is characterized by increased risk for cancers in certain tissues such as the uterus, ovary, breast, stomach, small intestine, skin, and larynx in addition to the colon. Diagnosis of classical HNPCC is based on the

Amsterdam criteria: 3 or more relatives affected by colorectal cancer, one a first degree relative of the other two; 2 or more generation affected; 1 or more colorectal cancers presenting before 50 years of age; exclusion of hereditary polyposis syndromes. The term 'suspected HNPCC' or 'incomplete HNPCC' can be used to describe families who do not or only partially fulfill the Amsterdam criteria, but in whom a genetic basis for colon cancer is strongly suspected. Note=The disease is caused by mutations affecting the gene represented in this entry. Mismatch repair cancer syndrome (MMRCS) [MIM:276300]: Autosomal dominant disorder characterized by malignant tumors of the brain associated with multiple colorectal adenomas. Skin features include sebaceous cysts, hyperpigmented and cafe au lait spots. Note=The disease is caused by mutations affecting the gene represented in this entry.

Similarity:

Belongs to the DNA mismatch repair MutL/HexB family.

SWISS:

P54278

Gene ID:

5395

Database links:

[Entrez Gene: 5395](#) Human

[Entrez Gene: 18861](#) Mouse

[Omim: 600259](#) Human

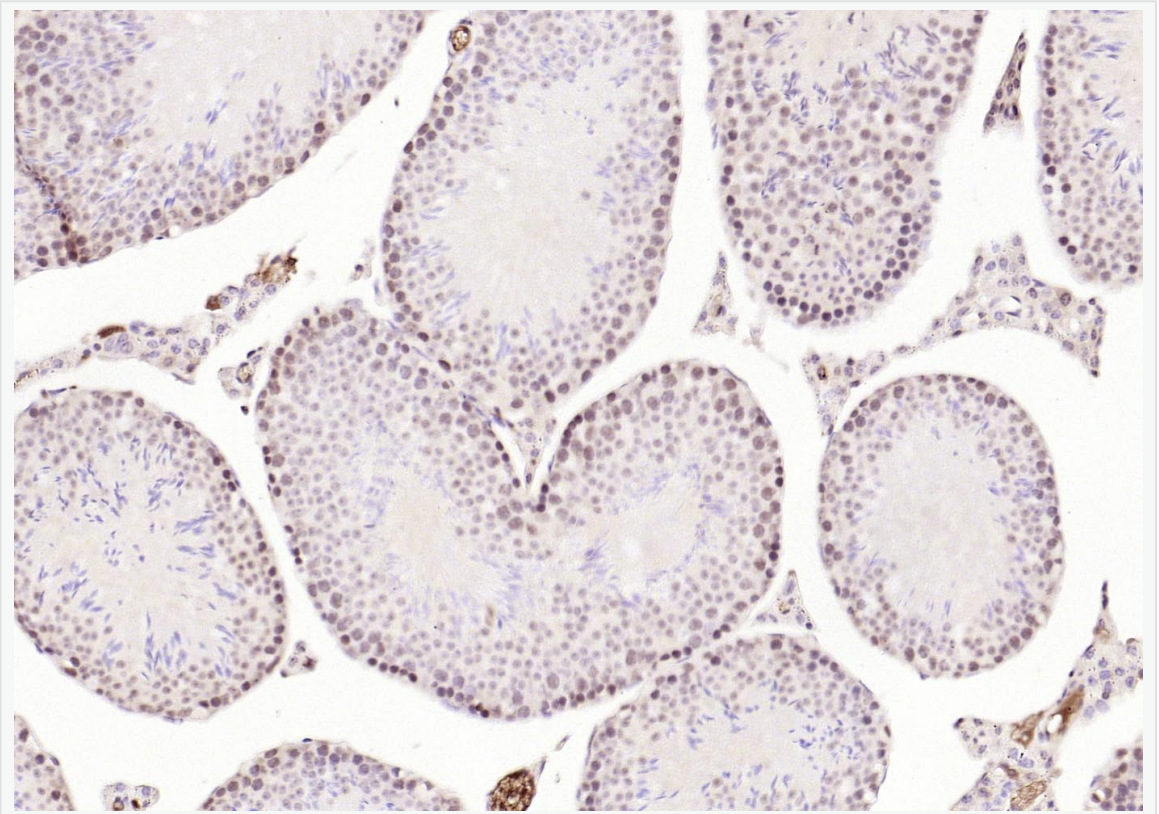
[SwissProt: P54278](#) Human

[SwissProt: P54279](#) Mouse

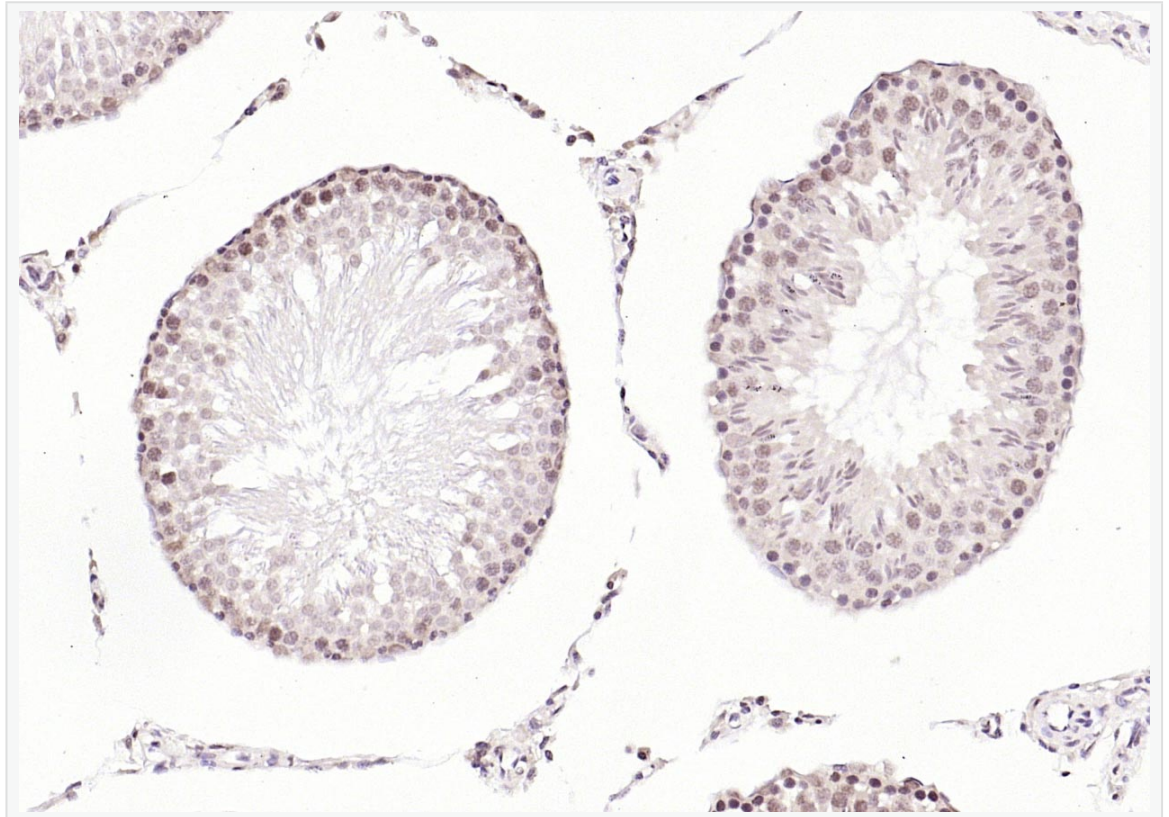
[Unigene: 632637](#) Human

[Unigene: 2950](#) Mouse

**Product
Picture**



Paraformaldehyde-fixed, paraffin embedded (mouse testis); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (PMS2) Monoclonal Antibody, Unconjugated (SLM-34140M) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Mouse)(sp-0024) instructions and DAB staining.



Paraformaldehyde-fixed, paraffin embedded (rat testis); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (PMS2) Monoclonal Antibody, Unconjugated (SLM-34140M) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Mouse)(sp-0024) instructions and DAB staining.