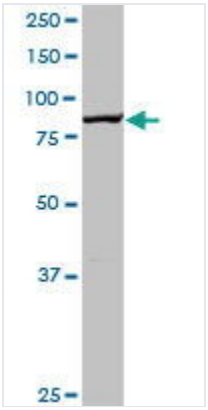
PMS2 Antibody – Rabbit Polyclonal

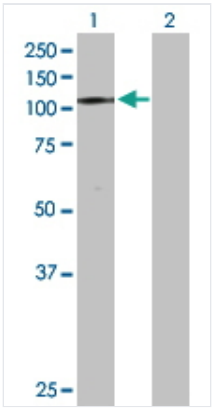
PRODUCT OVERVIEW

Product Name	PMS2, Polyclonal Antibody
Full Product Name	PMS2 (Mismatch Repair Endonuclease PMS2, PMS1 Protein Homolog 2, DNA Mismatch Repair Protein PMS2, PMSL2) (PE)
Product Gene Name	anti-PMS2 antibody
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with R-Phycoerythrin (PE).
Purity/Purification	Purified by Protein A Affinity Chromatography.
Specificity	Recognizes human PMS2.
Preparation and Storage	Store product at 4 degree C in the dark. DO NOT FREEZE! Stable at 4 degree C for 12 months after receipt as an undiluted liquid. Dilute required amo
Molecular Weight	95,797 Da
Chromosome Location	Chromosome: 7; NC_000007.13 (6012870..6048737, complement). Location: 7p22.2
OMIM	276300
3D Structure	ModBase 3D Structure for P54278
Immunogen	Full length human PMS2, aa1-862 (NP_000526.1).
Immunogen Sequence	MERAESSSTEPAKAIKPIDRKSVHQICSGQVVLSLSTAVKELVENSLDAGATNIDLKLKDYGVDLIEVSDNGCGVEEENFEGLTLKHHTSKIQEFADLTQVE
Conjugate	PE
Note	Preservative Free
Product Categories/Family for anti-PMS2 antibody	Antibodies; DNA Repair/Damage
Applications Tested/Suitable for anti-PMS2 antibody	Western Blot (WB)
Application Notes for anti-PMS2 antibody	Applications are based on unconjugated antibody.

Related Product Information for anti-PMS2 antibody	PMS2 is involved in DNA mismatch repair. It forms a heterodimer with MLH1 and this complex interacts with other complexes bound to mismatched ba
Other Notes	Small volumes of anti-PMS2 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necess
Searchable Terms for PMS2 purchase	MBS6389921 is an antibody targeting PMS2. Also known as PMS2 (Mismatch Repair Endonuclease PMS2, PMS1 Protein Homolog 2, DNA Mismatch



Western Blot (WB) of anti-PMS2 antibody
PMS2 rabbit polyclonal antibody. Western Blot analysis of PMS2 expression in human placenta.



Western Blot (WB) of anti-PMS2 antibody
Western Blot analysis of PMS2 expression in transfected 293T cell line by PMS2 polyclonal antibody. Lane 1: PMS2 transfected lysate (95.8kD). Lane 2: Non-transfected lysate.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PMS2. It may not necessarily be applicable to this product.

NCBI GI #	4505913
NCBI GeneID	5395
NCBI Accession #	NP_000526.1
UniProt Primary Accession #	P54278
UniProt Secondary Accession #	Q52LH6; Q5FBW9; Q5FBX1; Q5FBX2; Q75MR2; B2R610
UniProt Related Accession #	P54278
GenBank Nucleotide #	NM_000535
NCBI Official Full Name	mismatch repair endonuclease PMS2 isoform a
NCBI Official Synonym Full Names	PMS2 postmeiotic segregation increased 2 (S. cerevisiae)
NCBI Official Symbol	PMS2
NCBI Official Synonym Symbols	PMSL2; HNPCC4; PMS2CL
UniProt Protein Name	Mismatch repair endonuclease PMS2
UniProt Synonym Protein Names	DNA mismatch repair protein PMS2; PMS1 protein homolog 2
Protein Family	Mismatch repair endonuclease
UniProt Gene Name	PMS2
UniProt Synonym Gene Names	PMSL2
UniProt Entry Name	PMS2_HUMAN

NCBI Protein Information	mismatch repair endonuclease PMS2; H_DJ0042M02.9; PMS1 protein homolog 2; DNA mismatch repair protein PMS2
NCBI Summary for PMS2	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]
UniProt Comments for PMS2	PMS2: 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- MSH6) 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. MulL 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. Defects in PMS2 are the cause of hereditary non-polyposis colorectal cancer type 4 (HNPCC4). Mutations in more than one gene locus can be involved alone or in combination in the production of the HNPCC phenotype (also called Lynch syndrome). Most families with clinically recognized HNPCC have mutations in either MLH1 or MSH2 genes. HNPCC is an autosomal, dominantly inherited disease associated with marked increase in cancer susceptibility. It is characterized by a familial predisposition to early onset colorectal carcinoma (CRC) and extra-colonic cancers 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, and accounts for 15% of all colon cancers. Cancers in HNPCC originate within benign neoplastic polyps termed adenomas. Clinically, HNPCC is often divided into two subgroups. Type I: hereditary predisposition to colorectal cancer, a young age of onset, and carcinoma observed in the proximal colon. Type II: patients have an 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. Defects in PMS2 are a cause of mismatch repair cancer syndrome (MMRCS); also known as Turcot syndrome or brain tumor-polyposis syndrome 1 (BTPS1). MMRCS is an 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. Belongs to the DNA mismatch repair MutL/HexB family. 4 isoforms of the human protein are produced by alternative splicing. Protein type: DNA repair, damage; EC 3.1.-.-; Hydrolase; Tumor suppressor; Cell cycle regulation Chromosomal Location of Human Ortholog: 7p22.2 Cellular Component: MutLalpha complex; microtubule cytoskeleton; nucleoplasm; cytoplasm; nucleus Molecular Function: protein binding; DNA binding; single base insertion or deletion binding; endonuclease activity; ATPase activity; MutSalpha complex binding; single-stranded DNA binding; ATP binding Biological Process: response to drug; mismatch repair; somatic hypermutation of immunoglobulin genes; somatic recombination of immunoglobulin gene segments; DNA repair Disease: Colorectal Cancer, Hereditary Nonpolyposis, Type 4; Mismatch Repair Cancer Syndrome
Research Articles on PMS2	**1.** Deleterious PMS2 allele generated by recombination with crossover between PMS2 and PMS2CL is associated with colorectal tumors.
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