

# PMS1 (E-3): sc-515302

## BACKGROUND

The finding that mutations in DNA mismatch repair genes are associated with hereditary nonpolyposis colorectal cancer (HNPCC) has resulted in considerable interest in the understanding of the mechanism of DNA mismatch repair. Initially, inherited mutations in the MSH2 and MLH1 homologs of the bacterial DNA mismatch repair genes MutS and MutL were demonstrated at high frequency in HNPCC and were shown to be associated with microsatellite instability. The demonstration that 10 to 45% of pancreatic, gastric, breast, ovarian and small cell lung cancers also display microsatellite instability has been interpreted to suggest that DNA mismatch repair is not restricted to HNPCC tumors but is a common feature in tumor initiation or progression. Two additional homologs of the prokaryotic MutL gene, designated PMS1 and PMS2, have been identified and shown to be mutated in the germline of HNPCC patients.

## REFERENCES

- Peltomäki, P., et al. 1993. Genetic mapping of a locus predisposing to human colorectal cancer. *Science* 260: 810-812.
- Ionov, Y., et al. 1993. Ubiquitous somatic mutations in simple repeated sequences reveal a new mechanism for colonic carcinogenesis. *Nature* 363: 558-561.
- Papadopoulos, N., et al. 1994. Mutation of a MutL homolog in hereditary colon cancer. *Science* 263: 1625-1629.
- Prolla, T.A., et al. 1994. MLH1, PMS1, and MSH2 interactions during the initiation of DNA mismatch repair in yeast. *Science* 265: 1091-1092.
- Palombo, F., et al. 1994. Mismatch repair and cancer. *Nature* 367: 417-418.
- Bronner, C.E., et al. 1994. Mutation in the DNA mismatch repair gene homologue hMLH1 is associated with hereditary non-polyposis colon cancer. *Nature* 368: 258-261.

## CHROMOSOMAL LOCATION

Genetic locus: PMS1 (human) mapping to 2q32.2.

## SOURCE

PMS1 (E-3) is a mouse monoclonal antibody raised against amino acids 633-932 mapping at the C-terminus of PMS1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PMS1 (E-3) is available conjugated to agarose (sc-515302 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515302 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515302 PE), fluorescein (sc-515302 FITC), Alexa Fluor® 488 (sc-515302 AF488), Alexa Fluor® 546 (sc-515302 AF546), Alexa Fluor® 594 (sc-515302 AF594) or Alexa Fluor® 647 (sc-515302 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515302 AF680) or Alexa Fluor® 790 (sc-515302 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

PMS1 (E-3) is recommended for detection of PMS1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PMS1 siRNA (h): sc-37409, PMS1 shRNA Plasmid (h): sc-37409-SH and PMS1 shRNA (h) Lentiviral Particles: sc-37409-V.

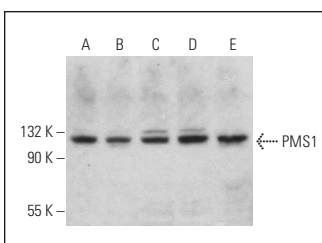
Molecular Weight of PMS1: 115 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MOLT-4 cell lysate: sc-2233 or HeLa whole cell lysate: sc-2200.

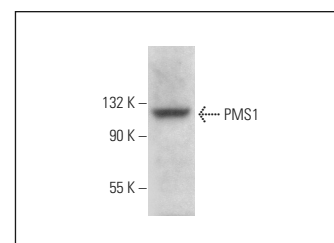
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BPFITC: sc-516140 or m-IgGκ BPE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



PMS1 (E-3): sc-515302. Western blot analysis of PMS1 expression in T24 (A), HeLa (B), MOLT-4 (C), Jurkat (D) and A549 (E) whole cell lysates.



PMS1 (E-3): sc-515302. Western blot analysis of PMS1 expression in HEL 92.1.7 whole cell lysate.

## SELECT PRODUCT CITATIONS

- Singh, V., et al. 2019. Azoospermic infertility is associated with altered expression of DNA repair genes. *DNA Repair* 75: 39-47.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.