Novocastra™ Liquid Mouse Monoclonal Antibody Mismatch Repair Protein (PMS2)

Product Code: NCL-L-PMS2

Intended Use	FOR RESEARCH USE ONLY.
Specificity	Human Mismatch Repair Protein (PMS2)
Clone	M0R4G
Ig Class	IgG1
Antigen Used for Immunizations	Prokaryotic recombinant protein corresponding to 160 amino acids of the C-terminal region of the human PMS2 molecule.
Hybridoma Partner	Mouse myeloma (p3-NS1-Ag4.1).
Preparation	Liquid tissue culture supernatant containing 15 mM sodium azide. Volume as indicated on vial label.
Effective on Frozen Tissue	Not evaluated.
Effective on Paraffin Wax Embedded Tissue	Yes (using heat induced epitope retrieval with Tris–EDTA-based buffer, pH 9.0: see overleaf).
Recommendations on Use	Immunohistochemistry: Typical working dilution 1:100. Heat induced epitope retrieval with Tris–EDTA-based buffer, pH 9.0. 30 minutes primary antibody incubation at 25 °C. Polymer detection recommended. Western Blotting: Typical working dilution: 1:500–1:2000 (ECL™, Amersham Pharmacia Biotech).
Positive Controls	Immunohistochemistry: Colon. Western Blotting: SkBr3 cell line.
Staining Pattern	Nuclear.
Storage and Stability	Store liquid antibody at 4 °C. Under these conditions, there is no significant loss in product performance up to the expiry date indicated on the vial label. Prepare working dilutions on the day of use.
General Overview	Postmeiotic segregation increased 2 (PMS2), also known as PMS1 protein homologue 2, is a DNA mismatch repair (MMR) protein. The PMS2 gene family members are found in clusters on chromosome 7. PMS2 is a 96 kDa mismatch repair protein closely related to MLH1, MLH3 and PMS1, which are homologs of the bacterial *mutL* gene. The PMS2 protein forms a heterodimer with the MLH1 protein which is then activated in the presence of ATP; this complex coordinates the binding of other proteins that repair DNA errors arising during cell preparation for cell division. The loss of PMS2 expression in tumors can be helpful in identifying hMLH1 mutation carriers and identify their suitability for mutation analysis. PMS2 gene defects account for a small but significant proportion of colorectal cancers and for a substantial proportion of tumors with micro-satellite instability. PMS2 is associated with cases of the dominantly inherited disorder Hereditary Non-Polyposis Colon Cancer (HNPCC) but more clearly associated with a variation of HNPCC known as Turcot's syndrome.
General References	Silva F, Valentin M, Ferreira F et al. Sao Paulo Medical Journal. 2009; 127(1):46–51. Boland C, Koi M, Chang D et al. Familial Cancer. 2008; 7:41–52. Vos M, Hayward B and Sheridan E. Biochemical Society Transactions. 2005; 33(4):718–720.

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BIOSYSTEMS

Instructions for Use

Heat Induced Epitope Retrieval Combined With Polymer Detection For Immunohistochemical Demonstration On Paraffin Sections

1. Cut and mount sections on slides coated with a suitable tissue adhesive.
2. Deparaffinize sections and rehydrate to distilled water.
3. Place sections in 0.5% hydrogen peroxide/methanol for 10 minutes (or use other appropriate endogenous peroxidase blocking procedure). Wash sections in tap water.
4. Heat 1500 mL of the recommended epitope retrieval solution (Citrate based pH 6.0 - Epitope Retrieval Solution unless otherwise indicated overleaf) in a stainless steel pressure cooker until boiling. Cover but do not lock lid.
5. Position slides into metal staining racks (do not place slides close together as uneven staining may occur) and lower into pressure cooker ensuring slides are completely immersed in epitope retrieval solution. Lock lid.
6. When the pressure cooker reaches operating temperature and pressure (after about 5 minutes) start a timer for 1 minute (unless otherwise indicated on the data sheet).
7. When the timer rings, remove pressure cooker from heat source and run under cold water with lid on. DO NOT OPEN LID UNTIL THE INDICATORS SHOW THAT PRESSURE HAS BEEN RELEASED. Open lid, remove slides and place immediately into a bath of tap water.
8. Wash sections once using fresh Tris-Buffered Saline (TBS, pH 7.6) buffer for 5 minutes.
9. Place sections in diluted normal serum (eg NCL-G-SERUM) for 10 minutes.
10. Incubate sections with primary antibody.
11. Wash twice, each time using fresh TBS buffer for 5 minutes.
12. For visualization of the bound primary antibody, follow instructions supplied with the Polymer Detection System.
13. Counterstain with hematoxylin (if required), dehydrate and mount.

** (In most applications, Phosphate Buffered Saline, pH 7.6, can be used instead of TBS, pH 7.6).*

Safety Note

To ensure the correct and safe use of your pressure cooker, PLEASE READ THE MANUFACTURER'S INSTRUCTIONS.