Datasheet for 600-401-930

MLF1 phospho T78 Antibody

Overview

Description:	Anti-MLF1 Interacting Protein pT78 (RABBIT) Antibody - 600-401-930
Item No.:	600-401-930
Size:	100 µg
Applications:	ELISA, IF, IHC, WB
Reactivity:	Human
Host Species:	Rabbit

Product Details

Background:	This antibody is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI). Myeloid leukemia factor-1 (MLF1) Interacting Protein (also known as Centromere Protein U) is a novel polo-like kinase 1 (Plk1) substrate. Plk1 phosphorylation of MLF1IP induces ubiquitination and degradation of MLF1IP prior to the metaphase/anaphase transition. Several Plk1-dependent phosphorylation sites have been identified on MLF1IP by mass spectrometry. Mutations of these sites stabilize MLF1IP and inhibit mitotic progression. Subsequent in vitro and in vivo MLF1IP phosphorylation and stability assays have revealed that phosphorylation of Thr78 is critical for triggering Plk1-dependent MLF1IP degradation. Expression of a non-degradable Thr78Ala mutant was sufficient to induce a mitotic block. Timely phosphorylation of MLF1IP on Thr78 by Plk1 is critical for eliminating the MLF1IP-imposed mitotic block prior to anaphase onset. Anti-MLF1 pT78 Antibody is useful for researchers interested in Cell Cycle Proteins, Chromatin, and Ubiquitin Research.
Synonyms:	rabbit anti-MLF1 pT78 antibody, rabbit anti-MLF1 Interacting Protein pT78 antibody, Centromere protein U, CENP-U, Centromere protein of 50 kDa, CENP-50, Interphase centromere complex protein 24, KSHV latent nuclear antigen-interacting protein 1, MLF1-interacting protein, Polo-box-interacting protein 1, ICEN24, PBIP1, KLIP1
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	CENPU
Reactivity:	Human
PTM Specificity:	Phosphorylation
Immunogen Type:	Conjugated Peptide
Immunogen:	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to amino acids surrounding Thr78 of human MLF1IP protein. The immunogen peptide is phosphorylated at Thr78.
Purity/Specificity:	This product was affinity purified from monospecific antiserum by immunoaffinity chromatography using phospho-peptide coupled to agarose beads followed by solid phase adsorption against the non-phospho peptide. This antibody is specific for human MLF1IP protein phosphorylated at Thr78. A BLAST analysis was used to suggest cross-reactivity with MLF1IP protein from human, dog, bovine and chimpanzee based on 100% homology with the immunizing sequence. Expect partial reactivity with homologues from rat and mouse (90% homology). Reactivity against homologues from other sources is not known.
Relevant Links:	• UniProtKB - Q71F23 • NCBI - 38016935 • GeneID - 79682

Application Details

Tested Applications:	ELISA, IF, IHC, WB
Application Note:	This affinity purified antibody has been tested for use in ELISA, western blotting, IF, and IHC. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 65 kDa in size corresponding to MLF1IP protein by western blotting in the appropriately stimulated tissue, cell lysate or extract.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:5,000 - 1:25,000
IF:	User Optimized
IHC:	20 µg/ml
WB:	1:500 - 1:2,000

Formulation

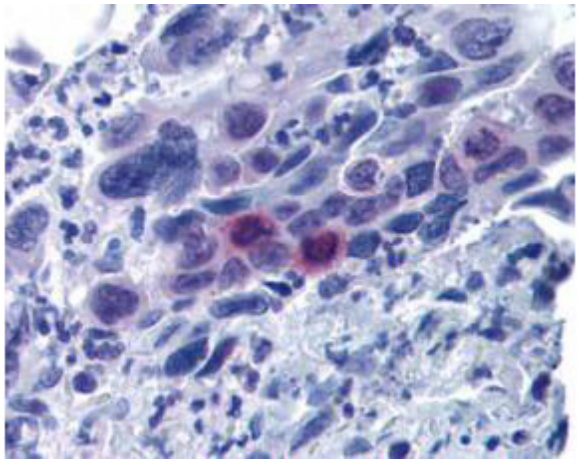
Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/mL by UV absorbance at 280 nm

Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

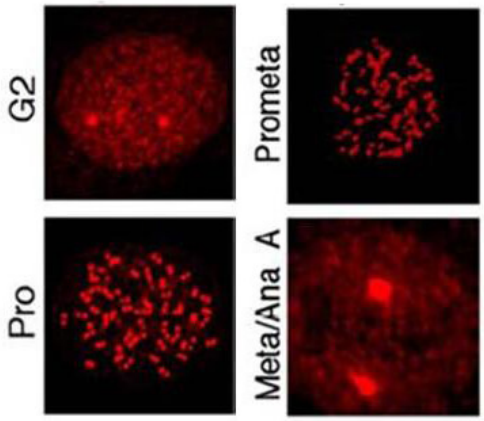
Shipping & Handling

Shipping Condition:	Dry Ice
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.
Expiration:	Expiration date is one (1) year from date of receipt.

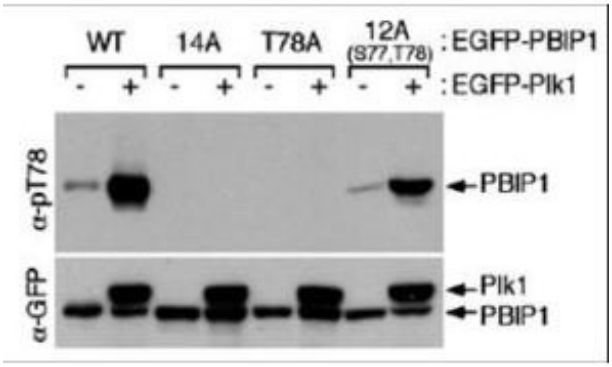
Images



Immunohistochemistry
Rockland's affinity purified anti-MLF1IP pT78 antibody was used at 20 µg/ml to detect signal in a variety of tissues including multi-human, multi-brain and multi-cancer slides. This image shows moderately positive staining of mitotic cells in colon adenocarcinoma at 60X. Tissue was formalin-fixed and paraffin embedded. The image shows localization of the antibody as the precipitated red signal, with a hematoxylin purple nuclear counterstain. Personal Communication, Tina Roush, LifeSpan Biosciences, Seattle, WA.



Immunofluorescence Microscopy
Immunostaining using Rockland's affinity purified anti-MLF1IP pT78 antibody shows detection of MLF1IP pT78 at the kinetochores of HeLa cells in different phases of the cell cycle. Fluorescent signals were detectable at the kinetochores as early as G2, became most abundant in prophase cells with a discernible nuclear envelope, and gradually diminished as cells proceeded through mitosis (Kang & Park, et al., 2006).



Western Blot
Western blot using Rockland's affinity purified anti-MLF1IP pT78 antibody shows detection of MLF1IP phosphorylated at Thr78. HeLa cells were co-infected with the indicated adenoviruses expressing GFP-tagged Plk1 or PBIP1. Blots were probed with the anti-MLF1IP pT78 antibody, stripped, and then reprobed with anti-GFP antibody (Kang & Park, et al., 2006).

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.