abcam

ab52489

Anti-MCM7/PRL antibody [EP1974Y]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP1974Y
Purification technique	Affinity purification Protein A
Specificity	This antibody reacts with hCDC47
Concentration	0.271 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Rat
Dilution info	1/50
Notes	

	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/50
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/20
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/30
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information MCM7

Function	Acts as a component of the MCM2-7 complex (MCM complex) which is the replicative helicase essential for 'once per cell cycle' DNA replication initiation and elongation in eukaryotic cells. Core component of CDC45-MCM-GINS (CMG) helicase, the molecular machine that unwinds template DNA during replication, and around which the replisome is built (PubMed:25661590, PubMed:32453425, PubMed:34694004, PubMed:34700328, PubMed:35585232, PubMed:9305914). The active ATPase sites in the MCM2-7 ring are formed through the interaction surfaces of two neighboring subunits such that a critical structure of a conserved arginine finger motif is provided in trans relative to the ATP-binding site of the Walker A box of the adjacent subunit. The six ATPase active sites, however, are likely to contribute differentially to the complex helicase activity

(PubMed:32453425). Required for S-phase checkpoint activation upon UV-induced damage.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The MCM7 (Minichromosome Maintenance Complex Component 7) also known as PRL serves an important mechanical role in DNA replication. It is part of the MCM2-7 complex a helicase essential for the initiation and elongation phases of DNA replication. MCM7 has a molecular mass of approximately 81 kDa and is found expressed in the nucleus of proliferating cells. It is essential for unwinding the DNA helix preparing it for replication.

Biological function summary	MCM7 is involved in maintaining genomic stability and ensuring accurate DNA replication. As part of the larger MCM2-7 hexameric complex it collaborates with other members to form the core component of the pre-replicative complex (pre-RC). By loading onto replication origins MCM7 helps license the DNA for duplication. This function contributes to cell cycle progression particularly the S phase where DNA synthesis occurs.
Pathways	MCM7 plays an important role in DNA replication-related signaling pathways. It functions within the cell cycle and DNA replication pathways interacting closely with other essential proteins like CDC45 and GINS complex. These partnerships facilitate the transition from the G1 to the S phase triggering the replication machinery's activation and ensuring cell division processes continue smoothly.
Associated diseases and disorders	MCM7 has been associated with various cancers including breast and prostate cancer. Aberrant expression or dysregulation of MCM7 contributes to uncontrolled cell proliferation linking it to tumorigenesis. Also MCM7 interacts with proteins such as cyclin D1 in certain oncogenic pathways emphasizing its role in the progression of cancerous conditions. Understanding these interactions offers insights into potential therapeutic targets for cancer treatment.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

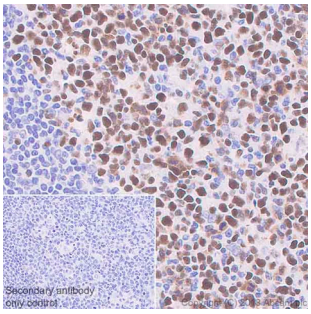
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

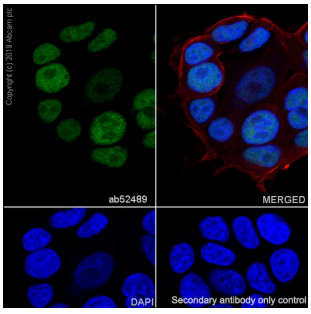
6 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM7/PRL antibody [EP1974Y] (ab52489)

MCM7/PRL Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM7/PRL antibody

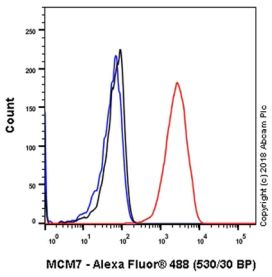
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue sections labeling MCM7/PRL with purified ab52489 at 1/50 dilution (5.4 µg/mL). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunocytochemistry/ Immunofluorescence - Anti-MCM7/PRL antibody [EP1974Y] (ab52489)

MCM7/PRL Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MCM7/PRL antibody

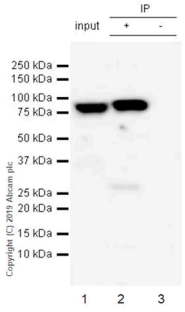
Immunocytochemistry/ Immunofluorescence analysis of MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling MCM7/PRL with Purified ab52489 at 1/50 (5.4 µg/mL). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/mL). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/mL) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-MCM7/PRL antibody [EP1974Y] (ab52489)

MCM7/PRL Flow Cytometry (Intracellular) staining using rabbit Anti-MCM7/PRL antibody

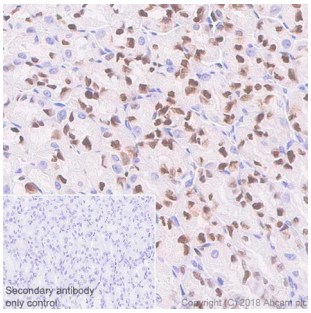
Intracellular Flow Cytometry analysis of MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling MCM7/PRL with Purified ab52489 at 1/30 dilution (10 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunoprecipitation - Anti-MCM7/PRL antibody [EP1974Y] (ab52489)

Purified ab52489 at 1/20 dilution (2ug) immunoprecipitating MCM7/PRL in Jurkat whole cell lysate.
Lane 1 (input): Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate (10µg)
Lane 2 (+): ab52489 + Jurkat whole cell lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab52489 in Jurkat whole cell lysate.
VeriBlot for IP Detection Reagent (HRP) (ab131366) (1/1000) was used for Western blotting.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: 81 kDa
All lanes:
Immunoprecipitation - Anti-MCM7/PRL antibody [EP1974Y] (ab52489)

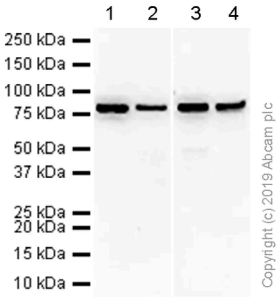
Predicted band size: 81 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM7/PRL antibody [EP1974Y] (ab52489)

MCM7/PRL Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM7/PRL antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat stomach tissue sections labeling MCM7/PRL with purified ab52489 at 1/50 dilution (5.4 µg/mL). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Western blot - Anti-MCM7/PRL antibody [EP1974Y] (ab52489)

MCM7/PRL Western blot staining using rabbit Anti-MCM7/PRL antibody

Blocking/Diluting buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-MCM7/PRL antibody [EP1974Y] (ab52489) at 1/1000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates at 20 µg

Lane 2:
A431 (Human epidermoid carcinoma epithelial cell) whole cell lysates at 20 µg

Lane 3:
C6 (Rat glial tumor glial cell) whole cell lysates at 20 µg

Lane 4:
Rat spleen lysates at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 81 kDa

Observed band size: 81 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.