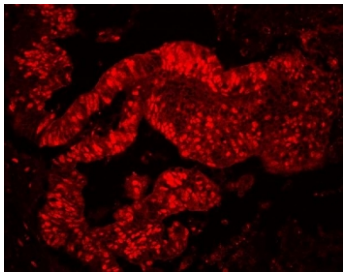
MCM7 Antibody for IF / Minichromosome Maintenance Complex Component 7 Antibody (R31674)

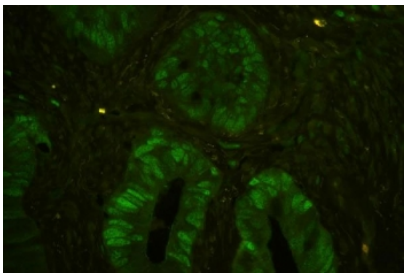
Catalog No.	Formulation	Size
R31674	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

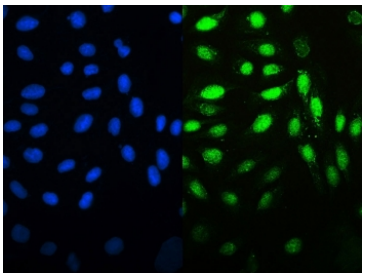
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide
Gene ID	4176
Localization	Nuclear
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 0.5-1ug/ml Immunocytochemistry: 0.5-1ug/ml Immunofluorescence: 2-4ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This MCM7 antibody is available for research use only.



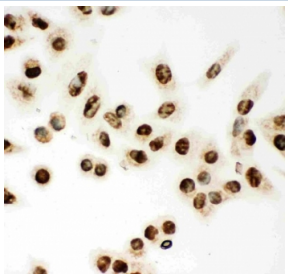
MCM7 Antibody for IF - immunofluorescence of human colon cancer tissue. FFPE human colon cancer tissue was stained with MCM7 Antibody for IF using a rabbit polyclonal antibody targeting Minichromosome maintenance complex component 7 / MCM7. Strong nuclear fluorescence is observed in many carcinoma epithelial cells, consistent with the nuclear localization of this DNA replication licensing factor and the high proliferative activity characteristic of colon cancer. Antigen retrieval was performed by steaming tissue sections in pH6 citrate buffer for 20 minutes prior to staining.



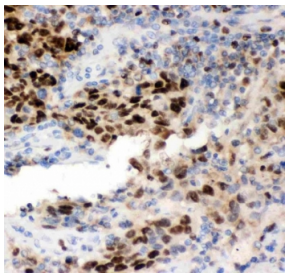
MCM7 Antibody for IF - immunofluorescence staining of human colon cancer tissue. FFPE human colon carcinoma tissue was stained with MCM7 Antibody for IF using a rabbit polyclonal antibody targeting Minichromosome maintenance complex component 7 / MCM7. Green nuclear fluorescence is observed in many tumor epithelial cells lining the glandular structures, consistent with the nuclear localization of this DNA replication licensing factor in proliferating cells. The staining highlights clusters of actively cycling carcinoma cells within the tumor epithelium. Heat-induced epitope retrieval was performed by steaming tissue sections in pH6 citrate buffer for 20 minutes prior to staining.



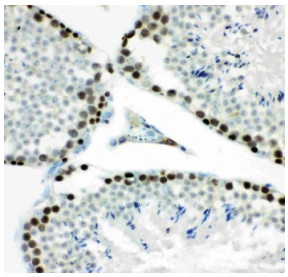
MCM7 Antibody for IF - immunofluorescence staining of human U-2 OS cells. FFPE human U-2 OS cells were stained with MCM7 Antibody for IF using a rabbit polyclonal antibody targeting Minichromosome maintenance complex component 7 / MCM7 (green). The signal localizes predominantly to cell nuclei, consistent with the known nuclear role of this DNA replication licensing factor. DAPI nuclear counterstain highlights cell nuclei (blue), demonstrating strong overlap with MCM7 staining in actively proliferating cells. Heat-induced epitope retrieval was performed by steaming sections in pH6 citrate buffer for 20 minutes prior to staining.



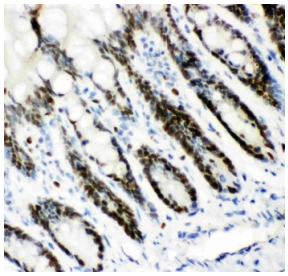
MCM7 Antibody ICC. Immunocytochemical staining of FFPE human A549 cells with MCM7 antibody. HIER: steam section in pH6 citrate buffer for 20 min.



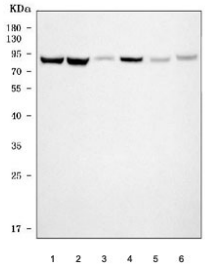
MCM7 Antibody Lung Cancer IHC. Immunohistochemistry staining of FFPE human lung cancer tissue with MCM7 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



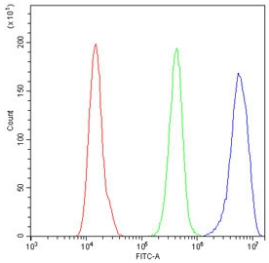
MCM7 Antibody Mouse Testis IHC. Immunohistochemistry staining of FFPE mouse testis tissue with MCM7 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



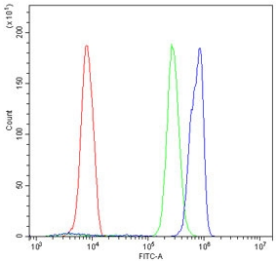
MCM7 Antibody Rat Intestine IHC. Immunohistochemistry staining of FFPE rat intestinal tissue with MCM7 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



MCM7 Antibody WB. Western blot testing of 1) human HeLa, 2) human K562, 3) human Jurkat, 4) human MCF7, 5) rat C6 and 6) mouse Neuro-2a cell lysate with MCM7 antibody. Expected molecular weight: 80-90 kDa.



MCM7 Antibody A431 Cells FACS. Flow cytometry testing of human A431 cells with MCM7 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= MCM7 antibody.



MCM7 Antibody U937 Cells FACS. Flow cytometry testing of human U937 cells with MCM7 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= MCM7 antibody.

Description

Minichromosome maintenance complex component 7 (MCM7) is a highly conserved nuclear protein encoded by the MCM7 gene and is a core member of the minichromosome maintenance (MCM) helicase complex that drives eukaryotic DNA replication. MCM7 Antibody for IF is designed to visualize this essential replication factor using immunofluorescence microscopy, enabling researchers to examine nuclear distribution patterns associated with cell cycle progression and proliferative activity. The MCM2-7 complex forms a hexameric helicase that unwinds double-stranded DNA at replication origins, allowing replication forks to form and progress during S phase.

Within the nucleus, MCM7 associates with other members of the MCM protein family including MCM2, MCM3, MCM4, MCM5, and MCM6 to assemble the functional replicative helicase. The protein is frequently described in the literature as CDC47 or P1-MCM3 and is commonly referred to as a DNA replication licensing factor because of its role in preparing chromosomal origins for DNA synthesis. During the G1 phase of the cell cycle, MCM complexes are loaded onto chromatin as part of the pre-replication complex. Once DNA synthesis begins, the helicase activity of the MCM2-7 complex enables the separation of DNA strands, ensuring accurate genome duplication.

Immunofluorescence analysis of MCM7 provides a powerful approach for visualizing proliferative cell populations because the protein is strongly expressed in actively cycling cells but reduced in quiescent or terminally differentiated cells. A rabbit polyclonal MCM7 Antibody for IF allows clear visualization of nuclear MCM7 distribution in cultured cells or tissue sections, where staining typically appears as punctate or diffuse nuclear fluorescence corresponding to chromatin-associated replication complexes. This nuclear localization pattern makes immunofluorescence particularly useful for studying replication licensing, replication fork formation, and cell cycle dynamics.

MCM7 expression is tightly linked to cellular proliferation and has therefore been investigated extensively as a biomarker of cell division in both normal tissues and malignancies. Elevated levels of the protein have been reported in numerous tumor types including breast cancer, colorectal cancer, lung cancer, and lymphoid malignancies, reflecting the increased DNA replication activity characteristic of rapidly dividing tumor cells. Because immunofluorescence can resolve

subcellular localization with high spatial precision, researchers frequently use an MCM7 Antibody for IF to examine nuclear replication foci and to correlate replication licensing with other cell cycle markers.

At the molecular level, MCM7 contains conserved helicase domains belonging to the AAA+ ATPase family, which provide the energy required for DNA strand separation during replication. These domains enable ATP binding and hydrolysis, processes that drive conformational changes within the MCM helicase ring as it translocates along DNA. Through these activities, the protein contributes to the maintenance of genomic stability and accurate chromosome duplication. Dysregulation of MCM7 expression or function can disrupt replication control mechanisms and has been associated with oncogenic transformation and abnormal cell cycle regulation.

Because of its nuclear localization and strong association with proliferating cells, immunofluorescence studies using a rabbit polyclonal antibody targeting MCM7 are widely applied to visualize DNA replication machinery, identify actively cycling cells, and investigate replication licensing mechanisms in cell biology and cancer research models.

This antibody is part of a broader panel of MCM7 antibodies designed to support detection of proliferation-associated proteins across multiple research applications.

Application Notes

Variations in secondary/substrate sensitivities and test protocols may require the MCM7 antibody for IF to be titrated for optimal performance.

Immunogen

Human partial recombinant protein (AA 526-719) was used as the immunogen for this MCM7 antibody.

Storage

The lyophilized MCM7 antibody can be stored at 4oC to -20oC. After reconstitution, aliquot and store at -20oC. Avoid repeated freeze/thaws.

Alternate Names

CDC47 antibody, P1-MCM3 antibody, DNA replication licensing factor MCM7 antibody, Minichromosome maintenance protein 7 antibody, MCM7 replication factor antibody

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