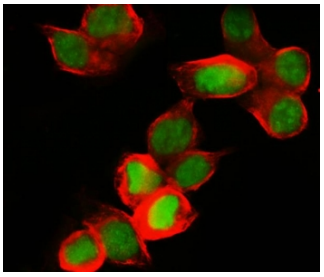
MCM7 Antibody Rabbit Polyclonal / Minichromosome Maintenance Protein 7 Antibody (R30890)

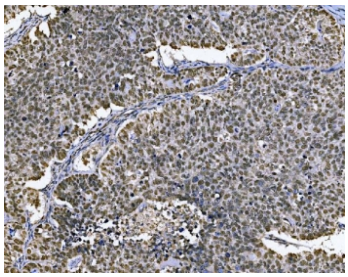
Catalog No.	Formulation	Size
R30890	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

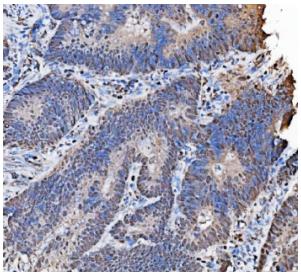
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P33993
Localization	Nuclear
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This MCM7 antibody is available for research use only.



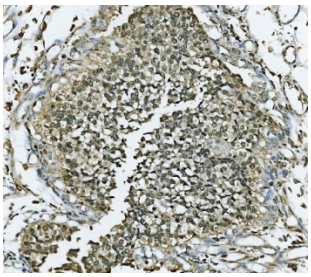
MCM7 Antibody Rabbit Polyclonal - immunofluorescence staining of human MCF7 cells. FFPE human MCF7 cells were stained with MCM7 Antibody Rabbit Polyclonal to detect Minichromosome maintenance protein 7 / MCM7 (green). Nuclear fluorescence is observed in many cells, consistent with the known nuclear localization of this DNA replication licensing factor in proliferating cells. Alpha Tubulin monoclonal antibody staining highlights the cytoskeletal microtubule network (red), providing cellular context for the nuclear MCM7 signal. Heat-induced epitope retrieval was performed by steaming sections in pH6 citrate buffer for 20 minutes prior to staining.



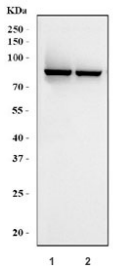
IHC staining of FFPE human ovarian serous adenocarcinoma tissue with MCM7 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



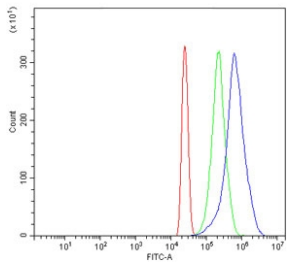
MCM7 Antibody Rabbit Polyclonal - immunohistochemistry of human rectal adenocarcinoma tissue. FFPE human moderately differentiated rectal adenocarcinoma tissue was stained with MCM7 Antibody Rabbit Polyclonal to detect Minichromosome maintenance protein 7 / MCM7. HRP-DAB brown chromogenic signal highlights predominantly nuclear staining in tumor epithelial cells within glandular gland structures, consistent with the nuclear localization of this DNA replication licensing factor in proliferating carcinoma cells. Hematoxylin counterstain marks cell nuclei (blue). Heat-induced epitope retrieval was performed by boiling tissue sections in pH8 EDTA buffer for 20 minutes and allowing sections to cool prior to staining.



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



Western blot testing of human 1) HeLa and 20 MCF7 cell lysate using rabbit polyclonal MCM7 antibody. Expected molecular weight: 80~90 kDa.



Flow cytometry testing of human HL60 cells with MCM7 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= MCM7 antibody.

Description

Minichromosome maintenance protein 7 (MCM7) is a nuclear DNA replication factor encoded by the MCM7 gene and functions as a key component of the minichromosome maintenance helicase complex that drives eukaryotic DNA replication. MCM7 Antibody Rabbit Polyclonal is designed to recognize this replication licensing protein and supports research focused on cell cycle regulation, DNA synthesis, and proliferative activity in normal and malignant cells. MCM7 belongs to the conserved MCM protein family and participates in the MCM2-7 helicase complex that unwinds double-stranded DNA during the initiation and elongation phases of DNA replication.

During early cell cycle stages, MCM proteins assemble onto chromatin at replication origins as part of the pre-replication complex. MCM7 interacts with other helicase subunits including MCM2, MCM3, MCM4, MCM5, and MCM6 to form the hexameric helicase ring responsible for separating DNA strands at replication forks. This activity allows DNA polymerases and associated replication machinery to access single-stranded DNA templates and accurately duplicate the genome during S phase. Because of this essential function, the MCM complex is often referred to as a DNA replication licensing system that ensures chromosomal DNA is replicated once per cell cycle.

MCM7 antibody, also referred to as CDC47 antibody and P1-MCM3 antibody in the literature, detects a replication-associated nuclear protein that is strongly expressed in actively dividing cells. The protein localizes primarily to the nucleus where it associates with chromatin during DNA synthesis. Expression of MCM7 is typically elevated in proliferating cell populations and reduced in quiescent or terminally differentiated cells, making it a useful indicator of cellular proliferation in many experimental systems.

At the molecular level, MCM7 contains conserved ATP-binding and ATP-hydrolysis domains that belong to the AAA+ ATPase family of helicase proteins. These domains provide the energy required for conformational changes within the helicase complex, enabling DNA strand separation and replication fork progression. Through these mechanisms, MCM7 plays an important role in maintaining genomic stability and coordinating DNA replication with cell cycle checkpoints. Disruption of MCM7 expression or activity can interfere with replication licensing and contribute to abnormal cell cycle progression.

Elevated expression of MCM7 has been reported in multiple cancer types, including colorectal carcinoma, breast cancer, and lung cancer, reflecting the increased DNA replication activity associated with rapidly proliferating tumor cells. Because of its strong nuclear localization and association with S-phase cells, the protein is widely studied in cancer biology, cell proliferation research, and studies of replication origin regulation. A rabbit polyclonal MCM7 Antibody Rabbit Polyclonal provides a useful tool for detecting Minichromosome maintenance protein 7 expression and studying the cellular mechanisms that regulate DNA replication and cell cycle progression.

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

The stated application concentrations are suggested starting amounts. Titration of the MCM7 Antibody Rabbit Polyclonal may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An amino acid sequence from the C-terminus of human MCM7 (DEYEELNVWQVNASRTRITFV) was used as the immunogen for this MCM7 antibody.

Storage

After reconstitution, the MCM7 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

CDC47 antibody, P1-MCM3 antibody, DNA replication licensing factor MCM7 antibody, MCM7 replication factor antibody, MCM7 helicase antibody

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