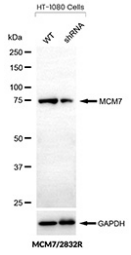
MCM7 Antibody / Knockdown-Validated Proliferation Marker Antibody [clone MCM7/2832R] (V7508)

Catalog No.	Formulation	Size
V7508-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7508-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7508SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V7508IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

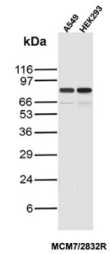
Recombinant RABBIT MONOCLONAL

Bulk quote request

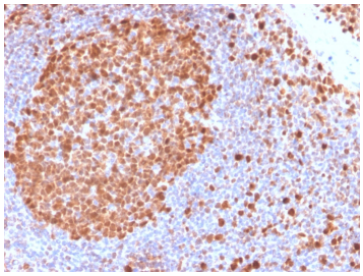
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MCM7/2832R
Purity	Protein A affinity chromatography
UniProt	P33993
Localization	Nuclear
Applications	Western blot: 2-4ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This MCM7 antibody is available for research use only.



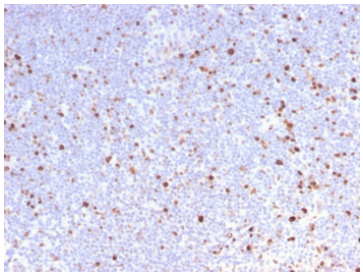
MCM7 Antibody Knockdown Validation WB. Western blot analysis of MCM7 / Minichromosome maintenance protein 7 expression in wild-type (WT) and MCM7 shRNA knockdown HT-1080 cells using MCM7 antibody clone MCM7/2832R. Lane 1: WT lysate, Lane 2: shRNA knockdown lysate. A band is detected at approximately 75-80 kDa in WT cells and is reduced in knockdown cells, supporting target-specific detection. GAPDH is shown as a loading control.



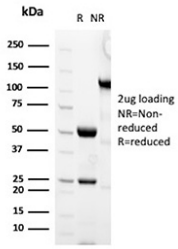
MCM7 Antibody Cell Line WB. Western blot analysis of MCM7 / Minichromosome maintenance protein 7 expression in A549 and HEK293 cell lysates using MCM7 antibody clone MCM7/2832R. Lane 1: A549 lysate, Lane 2: HEK293 lysate. A band is detected at approximately 75-80 kDa, consistent with the predicted molecular weight of MCM7.



MCM7 Antibody Tonsil IHC. Immunohistochemical analysis of MCM7 / Minichromosome maintenance protein 7 in formalin-fixed, paraffin-embedded human tonsil tissue using MCM7 antibody clone MCM7/2832R. Intense nuclear staining is observed in germinal center cells, highlighting proliferative zones, while surrounding lymphocytes show reduced staining, consistent with differential proliferation status.



MCM7 Antibody Lymph Node IHC. Immunohistochemical analysis of MCM7 / Minichromosome maintenance protein 7 in formalin-fixed, paraffin-embedded human lymph node tissue using MCM7 antibody clone MCM7/2832R. Strong nuclear staining is observed in proliferating lymphoid cells, with scattered positive nuclei throughout the tissue consistent with active cell cycle progression.



MCM7 Antibody SDS-PAGE (Reducing vs Non-Reducing). SDS-PAGE analysis of MCM7 antibody clone MCM7/2832R under reducing (R) and non-reducing (NR) conditions. Bands corresponding to antibody heavy and light chains are observed under reducing conditions, reflecting expected antibody structure.

Description

Minichromosome maintenance complex component 7 (MCM7) is a nuclear DNA replication licensing factor that plays a central role in the initiation and progression of DNA replication. MCM7 is a core component of the MCM2-7 helicase complex, which is required for unwinding double-stranded DNA at replication origins and enabling progression through S phase. This complex is tightly regulated and assembled during the G1 phase of the cell cycle, becoming activated only when cells commit to DNA synthesis. Because of this cell cycle-dependent function, MCM7 expression is strongly associated with proliferating cells and is minimal or absent in quiescent or terminally differentiated populations. The MCM7 Antibody / Knockdown-Validated Proliferation Marker Antibody is designed to detect this critical replication protein with high specificity, supported by functional validation using gene silencing approaches. This antibody is part of a collection of knockdown validated antibodies that have been functionally assessed using gene silencing approaches to support target-specific detection.

MCM7 antibody, also referred to as Minichromosome maintenance protein 7 antibody and DNA replication licensing factor antibody, recognizes a protein that is widely used as a marker of cellular proliferation. Western blot analysis demonstrates a clear and reproducible band at approximately 75-80 kDa in cell line lysates such as A549 and HEK293, consistent with the predicted molecular weight of MCM7. Importantly, knockdown validation using MCM7-targeted shRNA in HT-1080

cells results in a visible reduction of the MCM7 band relative to wild-type controls, providing functional evidence that the detected signal corresponds to the intended target. This reduction-based validation approach directly links antibody signal to protein expression levels and supports confident interpretation of western blot data.

Structurally, the MCM2-7 complex forms a hexameric ring that encircles DNA and acts as the replicative helicase during DNA synthesis. MCM7 contributes to helicase activity and stability of the complex, ensuring efficient DNA strand separation and replication fork progression. The regulated loading and activation of the MCM complex are essential for maintaining genomic stability and preventing re-replication, making MCM7 a key checkpoint-associated protein in cell cycle control.

Functionally, MCM7 is a sensitive indicator of proliferative status and is expressed in cells that are actively cycling or have the potential to re-enter the cell cycle. In contrast to markers such as Ki-67, which are expressed during specific phases, MCM7 is present throughout the entire cell cycle in proliferating cells, including early G1, providing broader detection of replication-competent cells. This makes MCM7 particularly useful for identifying proliferative compartments in both normal and diseased tissues.

In cancer biology, MCM7 expression is frequently elevated and correlates with increased tumor cell proliferation. Its presence in tumor tissues reflects active DNA replication and cellular turnover, making it a valuable marker for studying tumor growth dynamics and proliferative indices. In lymphoid tissues such as lymph node and tonsil, MCM7 shows strong nuclear staining in germinal center cells, where rapid B cell proliferation occurs, while surrounding non-proliferative lymphocytes display lower levels of expression. This distinct staining pattern highlights proliferative zones and supports its application in tissue-based analysis of cell cycle activity.

Immunohistochemical analysis demonstrates a clear nuclear localization pattern consistent with the role of MCM7 in DNA replication, while western blot and knockdown validation data confirm specific detection of the target protein. Clone MCM7/2832R is a recombinant rabbit monoclonal antibody designed to detect MCM7 with high specificity, providing a robust and well-validated tool for studies of cell cycle regulation, DNA replication, and proliferation-associated processes.

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

Titering of the MCM7 Antibody Rabbit Monoclonal MCM7/2832R may be required for optimal performance.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

A human recombinant partial protein corresponding to amino acids 195-319 was used as the immunogen for the recombinant MCM7 antibody.

Storage

Store the MCM7 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

MCM7 antibody, Minichromosome maintenance protein 7 antibody, DNA replication licensing factor antibody, MCM7 IHC antibody, MCM7 knockdown antibody

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