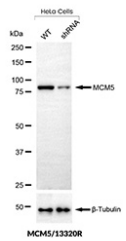
MCM5 Antibody Knockdown Validated / DNA Replication Licensing Factor Antibody [clone MCM5/13320R] (V5945)

Catalog No.	Formulation	Size
V5945-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5945-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V5945SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

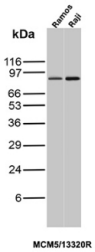
Recombinant RABBIT MONOCLONAL

Bulk quote request

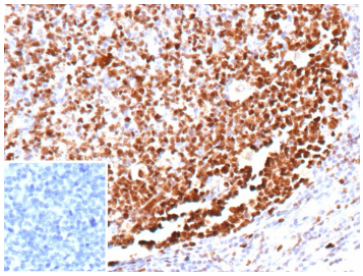
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MCM5/13320R
Purity	Protein A affinity
UniProt	P33992
Localization	Chromosome, Nucleus
Applications	Immunohistochemistry (FFPE): 1-2ug/ml Western Blot: 2-4ug/ml
Limitations	This MCM5 Antibody Knockdown Validated / DNA Replication Licensing Factor Antibody is available for research use only.



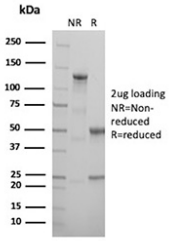
MCM5 Antibody Knockdown Validation HeLa. Knockdown validation of MCM5 expression in human HeLa cells using MCM5 antibody clone MCM5/13320R. Lane 1: wild-type cells, Lane 2: MCM5 shRNA knockdown cells. A marked reduction in band intensity is observed in knockdown samples compared to wild-type controls, confirming specific detection of endogenous MCM5. Beta-Tubulin is used as a loading control.



MCM5 Antibody Cell Line Western Blot. Western blot analysis of MCM5 expression in human cell lysates using MCM5 antibody clone MCM5/13320R. A distinct band is detected at approximately 80-90 kDa, consistent with the expected molecular weight of MCM5.



MCM5 Antibody Tonsil Germinal Center IHC. Immunohistochemistry analysis of MCM5 expression in FFPE human tonsil tissue using MCM5 antibody clone MCM5/13320R. Strong HRP-DAB brown nuclear staining highlights proliferating lymphoid cells within germinal centers, while surrounding non-proliferating lymphocytes show reduced or absent staining. A negative control inset using PBS in place of primary antibody shows no specific staining, confirming minimal non-specific background. Heat induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 45 minutes followed by cooling prior to staining.



MCM5 Antibody SDS-PAGE Integrity NR vs R. SDS-PAGE analysis of antibody integrity under non-reducing (NR) and reducing (R) conditions using MCM5 antibody clone MCM5/13320R. Under reducing conditions, bands corresponding to antibody heavy and light chains are observed, confirming expected antibody structure.

Description

Minichromosome Maintenance Complex Component 5 (MCM5) is a nuclear protein that functions as a core subunit of the MCM2-7 helicase complex, which is essential for DNA replication initiation and elongation. MCM5 (MCM5) plays a critical role in replication origin licensing by participating in the assembly of the pre-replication complex during the G1 phase of the cell cycle. This licensing step ensures that DNA replication occurs once per cycle, making MCM5 tightly linked to proliferative capacity and genome duplication. The MCM5 Antibody Knockdown Validated / DNA Replication Licensing Factor Antibody is designed to detect this key proliferation-associated protein with high specificity in both tissue-based and biochemical assays. It is part of a collection of knockdown validated antibodies that have been functionally assessed using gene silencing approaches to support target-specific detection.

MCM5 antibody, also referred to as MCM complex component 5 antibody and replication licensing factor antibody, recognizes a nuclear protein that is selectively expressed in actively cycling cells. Immunohistochemistry analysis of formalin-fixed, paraffin-embedded human tonsil tissue demonstrates strong nuclear HRP-DAB brown staining in proliferating lymphoid cells within germinal centers. These structures represent zones of intense B cell proliferation, and the robust nuclear signal reflects elevated MCM5 expression during DNA replication. Surrounding non-proliferating lymphocytes show weak or absent staining, providing clear contrast and reinforcing the specificity of MCM5 as a marker of cell cycle activity. A negative control inset using PBS in place of primary antibody shows no specific staining, confirming minimal background and supporting signal specificity.

Western blot analysis identifies a distinct band at approximately 80-90 kDa in human cell lysates, consistent with the expected molecular weight of MCM5. The band is sharp and reproducible across tested samples, supporting reliable detection of the endogenous protein. Importantly, knockdown validation using MCM5-targeted shRNA in HeLa cells results in a clear and reproducible reduction in signal compared to wild-type controls, confirming that the detected band corresponds specifically to MCM5 protein. This gene silencing-based validation provides direct functional evidence linking antibody signal to target expression and distinguishes this clone as a knockdown validated reagent suitable for high-

confidence applications.

Functionally, MCM5 is essential for the regulation of DNA replication licensing and progression through S phase. It is loaded onto chromatin at replication origins and participates in helicase activation during DNA synthesis. Because of this role, MCM5 is widely used as a marker of proliferating cells and provides broader detection of replication-competent cells compared to phase-restricted markers. In IHC, this is reflected by strong nuclear staining in proliferative compartments such as germinal centers and tumor cell populations, while quiescent cells lack detectable expression.

In cancer biology, elevated MCM5 expression correlates with increased proliferative activity and tumor progression. Its presence in rapidly dividing cell populations highlights its utility in assessing cell cycle dynamics and tumor growth. Detection of MCM5 in tissue sections provides insight into the replicative state of cells and supports studies of proliferation, DNA replication stress, and therapeutic response targeting cell cycle pathways.

The combination of strong nuclear IHC staining in proliferative tissue compartments, clear molecular weight detection in western blot, and functional knockdown validation makes clone MCM5/13320R a well-characterized reagent for studying DNA replication and cell cycle regulation. These complementary validation approaches support its use in applications requiring high specificity and reproducibility, particularly in research focused on genome duplication and proliferative signaling pathways.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

1. Optimal dilution of the MCM5 Antibody Knockdown Validated / DNA Replication Licensing Factor Antibody should be determined by the researcher.

Immunogen

A recombinant fragment (around amino acids 500-734) of human MCM5 protein (exact sequence is proprietary) was used as the immunogen for the MCM complex component 5/MCM5 antibody.

Storage

MCM5/Replication licensing factor MCM5 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

MCM5 antibody, MCM5 knockdown validated antibody, MCM complex component 5 antibody, MCM complex component 5 knockdown validated antibody, replication licensing factor antibody, minichromosome maintenance protein 5 antibody

Copyright © NSJ Bioreagents. All rights reserved.