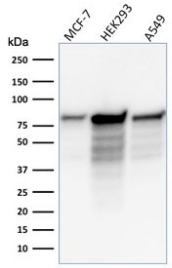
MCM7 Antibody [clone MCM7/1466] (V3365)

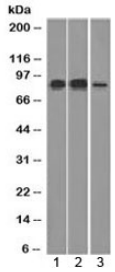
Catalog No.	Formulation	Size
V3365-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3365-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3365SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

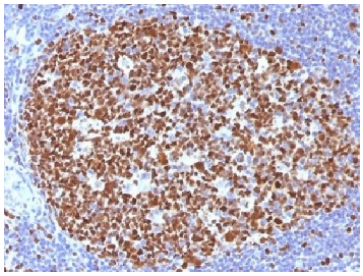
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	MCM7/1466
Purity	Protein G affinity chromatography
UniProt	P33993
Localization	Nuclear
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This MCM7 antibody is available for research use only.



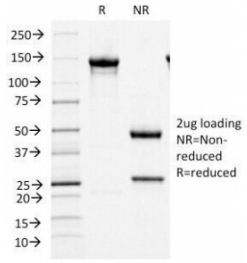
Western blot testing of human samples with MCM7 antibody (clone MCM7/1466). Expected molecular weight: 80-90 kDa.



Western blot testing of human 1) HeLa, 2) Raji and 3) HepG2 cell lysate with MCM7 antibody (clone MCM7/1466). Expected molecular weight: 80-90 kDa.



IHC testing of FFPE human tonsil with MCM7 antibody (clone MCM7/1466). Required HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min.



SDS-PAGE Analysis of Purified, BSA-Free MCM7 Antibody (clone MCM7/1466). Confirmation of Integrity and Purity of the Antibody.

Description

MCM7 antibody detects MCM7, a core component of the minichromosome maintenance complex that regulates DNA replication licensing, replication fork progression, and genome stability. The UniProt recommended name is DNA replication licensing factor MCM7. MCM7 forms part of the essential MCM2 through MCM7 helicase, a ring shaped complex that unwinds DNA at replication forks during S phase. Because replication licensing occurs only once per cell cycle, MCM7 serves as a key indicator of proliferation and DNA synthesis activity. Clone MCM7/1466 is a monoclonal antibody developed to recognize MCM7 protein in studies focused on replication control, cell cycle regulation, and proliferative behavior.

MCM7 is a nuclear protein of approximately 719 amino acids containing ATP binding and helicase related motifs required for its role in unwinding DNA. Within the MCM complex, MCM7 associates with MCM3 and MCM5 to help stabilize and activate the helicase. Loading of MCM7 onto replication origins occurs during G1 phase as part of the pre replication complex. Activation during S phase involves CDK and DDK dependent phosphorylation events that promote helicase conformational changes needed for origin firing. Through these coordinated steps, MCM7 ensures accurate duplication of the genome and prevents re licensing in the same cell cycle.

The MCM7 gene, located on chromosome 7q22.1, is expressed at high levels in proliferating cells including stem and progenitor populations, developing tissues, gastrointestinal epithelium, bone marrow, and reproductive organs. In contrast, fully differentiated or quiescent cells express minimal MCM7, reflecting reduced replication demand. This dynamic regulation makes MCM7 a widely used marker for S phase entry, replication stress, mitogen driven proliferation, and checkpoints responding to DNA damage.

Beyond its core helicase function, MCM7 interacts with several regulatory proteins involved in chromatin structure and DNA repair. MCM7 contributes to stabilization of replication forks during genotoxic stress and helps coordinate responses to stalled or damaged forks. When cells encounter replication obstacles, MCM7 participates in checkpoint activation, fork remodeling, and recovery processes that preserve genome integrity. These functions also link MCM7 to pathways

involved in chromatin remodeling, epigenetic regulation, and long term maintenance of genomic stability.

In development, MCM7 supports growth of embryonic tissues by coordinating replication licensing with cell fate transitions. Controlled expression of MCM7 ensures that dividing cells replicate DNA in synchrony with differentiation signals. In adult tissues, MCM7 is required for renewal of high turnover cell types and contributes to repair responses following injury. Its expression reflects both proliferative demand and replication checkpoint status.

Dysregulation of MCM7 has been associated with numerous cancers, including breast, lung, colorectal, ovarian, brain, and hematologic malignancies. Elevated MCM7 levels frequently correlate with increased proliferation, replication stress, and genomic instability. Overexpression of MCM7 or improper assembly of the MCM complex can contribute to tumor progression by enabling abnormal replication dynamics. Because of this, MCM7 is studied as both a biomarker for tumor aggressiveness and a potential target for therapies that exploit replication stress vulnerabilities. Antibodies from clone MCM7/1466 have been used in studies examining tumor proliferation indices, S phase burden, and localization of replication factors in cancer models.

MCM7 antibody (clone MCM7/1466) is used to examine DNA replication licensing, helicase activation, and proliferation associated signaling. It is validated for use in relevant research applications to detect DNA replication licensing factor MCM7 in cells and tissues. NSJ Bioreagents provides MCM7 antibody reagents, including clone MCM7/1466, suitable for studies in oncology, developmental biology, stem cell research, and genome stability.

Application Notes

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

Immunogen

Amino acids 195-319 were used as the immunogen for the MCM7 antibody.

Storage

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