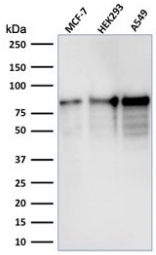
MCM7 Antibody Microarray Specificity Validated MCM7/1467 / Minichromosome Maintenance Protein 7 Antibody [clone MCM7/1467] (V3501)

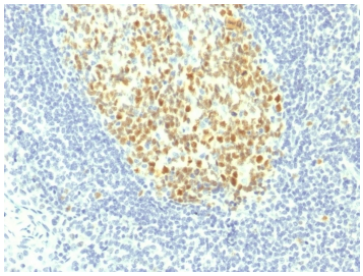
Catalog No.	Formulation	Size
V3501-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3501-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3501SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3501IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

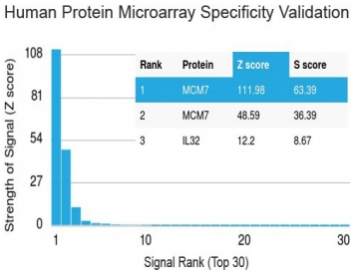
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	MCM7/1467
Purity	Protein G affinity chromatography
UniProt	P33993
Localization	Nuclear
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This MCM7 antibody is available for research use only.



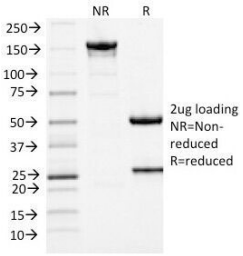
Western blot testing of human samples with microarray validated MCM7 antibody (clone MCM7/1467). Expected molecular weight: 80-90 kDa.



IHC testing of FFPE human tonsil with MCM7 antibody (clone MCM7/1467). Required HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min.



MCM7 Antibody Microarray Specificity Validated MCM7/1467 - protein microarray specificity validation. Analysis of a HuProt(TM) microarray containing more than 19,000 full-length human proteins was performed using MCM7 Antibody Microarray Specificity Validated MCM7/1467. The strongest binding signals correspond to MCM7, which ranks first and second on the array, demonstrating strong specificity of the MCM7/1467 mouse monoclonal antibody for its intended target. Z- and S-scores quantify antibody binding strength and target specificity. The Z-score represents the signal intensity produced when the antibody, together with a fluorescently labeled anti-IgG secondary antibody, binds to a protein on the array and is expressed as standard deviations above the mean signal of the array. When proteins are ordered by descending Z-score, the S-score represents the difference between adjacent Z-scores and therefore reflects the relative specificity of the antibody for its target protein.



SDS-PAGE Analysis of Purified, BSA-Free MCM7 Antibody (clone MCM7/1467). Confirmation of Integrity and Purity of the Antibody.

Description

Minichromosome maintenance protein 7 (MCM7) is a nuclear DNA replication factor encoded by the MCM7 gene and functions as a core component of the minichromosome maintenance helicase complex responsible for eukaryotic DNA replication. MCM7 Antibody Microarray Specificity Validated MCM7/1467 recognizes this replication licensing protein and supports research focused on cell cycle regulation, DNA synthesis, and cellular proliferation in normal and malignant tissues.

MCM7 belongs to the conserved MCM protein family that forms the heterohexameric MCM2-7 helicase complex. This complex assembles at replication origins during the G1 phase of the cell cycle as part of the pre-replication complex, where it licenses chromatin for DNA synthesis. When cells enter S phase, activation of the MCM helicase allows separation of double-stranded DNA at replication forks, enabling DNA polymerases and associated replication machinery to access single-stranded templates and duplicate the genome.

MCM7 antibody, also referred to as CDC47 antibody or P1-MCM3 antibody in the literature, detects a nuclear protein closely associated with actively proliferating cells. MCM7 localizes primarily to chromatin within the nucleus, where it participates in replication origin licensing and helicase activity during DNA synthesis. Expression levels are typically elevated in cycling cells and reduced in quiescent or terminally differentiated cell populations, making MCM7 a commonly studied marker of cellular proliferation.

Structurally, MCM7 contains conserved ATP-binding and ATP-hydrolysis domains belonging to the AAA+ ATPase family. These domains provide the energy required for helicase function, enabling conformational changes within the MCM complex that drive DNA strand separation and replication fork progression. Proper regulation of this helicase system ensures that genomic DNA is replicated once per cell cycle and contributes to the maintenance of genomic stability.

Increased expression of MCM7 has been reported in many cancers including colorectal carcinoma, breast cancer, lung cancer, and other rapidly proliferating malignancies. Elevated MCM protein levels reflect heightened DNA replication activity in tumor cells and have made the complex widely studied in cancer biology and cell cycle research. A mouse monoclonal antibody such as MCM7 Antibody Microarray Specificity Validated MCM7/1467 provides a reliable tool for detecting Minichromosome maintenance protein 7 expression and studying the molecular mechanisms that regulate DNA replication and proliferative signaling pathways.

Application Notes

Titering of the MCM7 Antibody Microarray Specificity Validated MCM7/1467 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 partial recombinant protein corresponding to amino acids 195-319 was 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).

Alternate Names

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