MCM7 Antibody for IHC / Minichromosome Maintenance Protein 7 Antibody [clone MSVA-507R] (V6095)

Catalog No.	Formulation	Size
V6095-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6095-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-507R
UniProt	P33993
Localization	Chromosome, Nucleus
Applications	Immunohistochemistry (FFPE): 1:100-1:200
Limitations	This MCM7 Antibody for IHC / Minichromosome Maintenance Protein 7 Antibody is available for research use only.



MCM7 Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of Minichromosome maintenance protein 7 / MCM7 in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using recombinant rabbit monoclonal antibody clone MSVA-507R. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates strong nuclear localization in proliferating cell populations across multiple tissues, including germinal center lymphocytes in tonsil and lymph node, intestinal epithelial cells in colon and appendix mucosa, proliferative compartments of the endometrium, and subsets of epithelial cells in testis and bronchial mucosa, while differentiated tissues such as skeletal muscle, cardiac muscle, and mature stromal compartments show minimal to absent staining. Within tumor tissue microarrays, strong nuclear staining is observed across multiple malignancies including colorectal carcinoma, breast carcinoma, lung carcinoma, and lymphoid neoplasms, reflecting elevated DNA replication activity in proliferating tumor cells. Evaluation across large TMA panels enables direct comparison of MCM7 expression across diverse tissue types under standardized conditions. The observed staining patterns align with reported expression profiles in the Human Protein Atlas and support its use as a marker of cellular proliferation and DNA replication activity.

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. The MCM7 Antibody for IHC (clone MSVA-507R) recognizes this replication licensing protein and is designed for immunohistochemistry analysis of proliferating cells in normal and neoplastic tissues. Because MCM7 expression is closely linked to DNA synthesis and cell cycle progression, immunohistochemistry staining patterns provide valuable insight into proliferative activity within tissue sections. This antibody is part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer 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 that licenses chromatin for DNA synthesis. Activation of the helicase during S phase allows separation of double-stranded DNA at replication forks, enabling DNA polymerases and associated replication machinery to duplicate the genome. Because of this role in DNA replication licensing, nuclear expression of MCM7 is typically observed in actively cycling cells.

MCM7 antibody, also referred to as CDC47 antibody and P1-MCM3 antibody in the literature, detects a nuclear protein that is widely used as an immunohistochemical marker of cellular proliferation. In immunohistochemistry studies, MCM7 staining typically appears as nuclear HRP-DAB brown signal in proliferating cell populations. In normal tissues, staining is often restricted to proliferative compartments such as germinal center lymphocytes, basal epithelial layers, intestinal crypt cells, and other regions containing actively dividing cells, while differentiated cells generally show reduced or absent signal.

Immunohistochemistry studies have also shown elevated MCM7 expression in a broad range of cancers including colorectal carcinoma, breast carcinoma, lung carcinoma, and other rapidly proliferating malignancies. In tumor samples, strong nuclear staining frequently highlights proliferating tumor cell populations and can be observed in both glandular and solid tumor architectures. These patterns reflect the increased DNA replication activity that characterizes malignant cell growth.

Testing of MCM7 Antibody for IHC (clone MSVA-507R), a recombinant rabbit monoclonal antibody, across a wide panel of normal and cancer tissue microarrays demonstrates staining patterns consistent with published expression data, including datasets such as the Human Protein Atlas. The antibody shows nuclear staining in proliferating cell populations across multiple tissue types and tumor samples, supporting its use in immunohistochemistry-based studies examining cell proliferation, tumor biology, and DNA replication licensing mechanisms.

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

1. Optimal dilution of the MCM7 Antibody for IHC should be determined by the researcher.

2. This MCM7 / Minichromosome maintenance complex component 7 antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

Recombinant human MCM7 protein fragment (amino acids 195-319) was used as the immunogen for the MCM7 / Minichromosome maintenance complex component 7 antibody.

Storage

MCM7 / Minichromosome maintenance complex component 7 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

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

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