

MCM5 (E-10): sc-165994



The Power to Question

BACKGROUND

The mini-chromosome maintenance (MCM) family of proteins, including MCM2, MCM3, MCM4 (Cdc21), MCM5 (Cdc46), MCM6 (Mis5) and MCM7 (Cdc47), are regulators of DNA replication that act to ensure replication occurs only once in the cell cycle. Expression of MCM proteins increases during cell growth, peaking at G₁ to S phase. The MCM proteins each contain an ATP-binding motif, which is predicted to mediate ATP-dependent opening of double-stranded DNA. MCM proteins are regulated by E2F transcription factors, which induce MCM expression, and by protein kinases, which interact with MCM proteins to maintain the postreplicative state of the cell. MCM2/MCM4 complexes function as substrates for Cdc2/cyclin B *in vitro*. Cleavage of MCM3, which can be prevented by caspase inhibitors, results in the inactivation during apoptosis of the MCM complex, which is composed of, at least, MCM2-6. A complex composed of MCM4, MCM6 and MCM7 has been shown to be involved in DNA helicase activity, and MCM5 is involved in IFN- γ -induced Stat1 α transcription activation.

CHROMOSOMAL LOCATION

Genetic locus: MCM5 (human) mapping to 22q12.3; Mcm5 (mouse) mapping to 8 C1.

SOURCE

MCM5 (E-10) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of MCM5 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MCM5 (E-10) is available conjugated to agarose (sc-165994 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-165994 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-165994 PE), fluorescein (sc-165994 FITC), Alexa Fluor[®] 488 (sc-165994 AF488), Alexa Fluor[®] 546 (sc-165994 AF546), Alexa Fluor[®] 594 (sc-165994 AF594) or Alexa Fluor[®] 647 (sc-165994 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-165994 AF680) or Alexa Fluor[®] 790 (sc-165994 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MCM5 (E-10) is recommended for detection of MCM5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

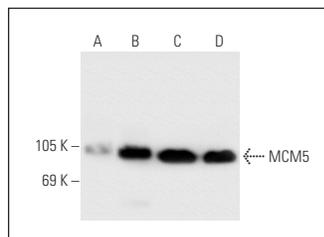
Suitable for use as control antibody for MCM5 siRNA (h): sc-35883, MCM5 siRNA (m): sc-35884, MCM5 shRNA Plasmid (h): sc-35883-SH, MCM5 shRNA Plasmid (m): sc-35884-SH, MCM5 shRNA (h) Lentiviral Particles: sc-35883-V and MCM5 shRNA (m) Lentiviral Particles: sc-35884-V.

Molecular Weight of MCM5: 90 kDa.

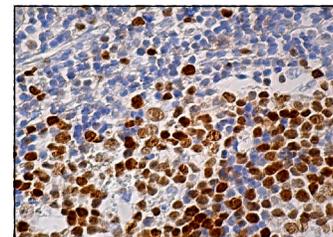
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



MCM5 (E-10): sc-165994. Western blot analysis of MCM5 expression in non-transfected: sc-110760 (A) and human MCM5 transfected: sc-110497 (B) 293 whole cell lysates and HL-60 (C) and KNRK (D) nuclear extracts.



MCM5 (E-10): sc-165994. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in germinal centers.

SELECT PRODUCT CITATIONS

- Scalia, C.R., et al. 2016. A 2-step laemmli and antigen retrieval method improves immunodetection. *Appl. Immunohistochem. Mol. Morphol.* 24: 436-446.
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- Nowinska, K., et al. 2019. MCM5 expression is associated with the grade of malignancy and Ki-67 antigen in LSCC. *Anticancer Res.* 39: 2325-2335.
- Ciesielska, U., et al. 2020. Comparison of TMA technique and routine whole slide analysis in evaluation of proliferative markers expression in laryngeal squamous cell cancer. *In Vivo* 34: 3263-3270.
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- Hsu, E.C., et al. 2021. MCM2-7 complex is a novel druggable target for neuroendocrine prostate cancer. *Sci. Rep.* 11: 13305.
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- Wang, J., et al. 2022. Targeted inhibition of the expression of both MCM5 and MCM7 by miRNA-214 impedes DNA replication and tumorigenesis in hepatocellular carcinoma cells. *Cancer Lett.* 539: 215677.
- Xu, X., et al. 2023. DNA replication initiation factor RECQ4 possesses a role in antagonizing DNA replication initiation. *Nat. Commun.* 14: 1233.
- Xiang, S., et al. 2023. Identification of selective ATP-competitive CMG helicase inhibitors for cancer intervention that disrupt CMG-replisome function. *Res. Sq.* E-published.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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