

MCM6 (D-12): sc-55577



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: MCM6 (human) mapping to 2q21.3; Mcm6 (mouse) mapping to 1 E4.

SOURCE

MCM6 (D-12) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of MCM6 of human origin.

PRODUCT

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

STORAGE

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

RESEARCH USE

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

APPLICATIONS

MCM6 (D-12) is recommended for detection of MCM6 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MCM6 siRNA (h): sc-35885, MCM6 siRNA (m): sc-35886, MCM6 shRNA Plasmid (h): sc-35885-SH, MCM6 shRNA Plasmid (m): sc-35886-SH, MCM6 shRNA (h) Lentiviral Particles: sc-35885-V and MCM6 shRNA (m) Lentiviral Particles: sc-35886-V.

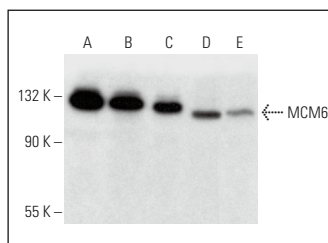
Molecular Weight of MCM6: 105 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, WEHI-231 whole cell lysate: sc-2213 or Jurkat whole cell lysate: sc-2204.

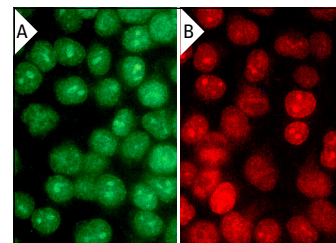
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MCM6 (D-12): sc-55577. Western blot analysis of MCM6 expression in Jurkat (A), U-2 OS (B), RT-4 (C), RAW 264.7 (D) and WEHI-231 (E) whole cell lysates.



MCM6 (D-12): sc-55577. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear staining (A, B).

SELECT PRODUCT CITATIONS

1. Kuipers, M.A., et al. 2011. Highly stable loading of MCM proteins onto chromatin in living cells requires replication to unload. *J. Cell Biol.* 192: 29-41.
2. He, D.M., et al. 2017. Oncogenic activity of amplified miniature chromosome maintenance 8 in human malignancies. *Oncogene* 36: 3629-3639.
3. Nepon-Sixt, B.S. and Alexandrow, M.G. 2019. TGF β 1 cell cycle arrest is mediated by inhibition of MCM assembly in Rb-deficient conditions. *Mol. Cancer Res.* 17: 277-288.
4. 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.