

# MCM3 (G-19): sc-9849

## 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 G<sub>1</sub> 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 of the MCM complex (composed of at least MCM proteins 2-6) during apoptosis. A complex composed of MCM4, MCM6 and MCM7 has been shown to be involved in DNA helicase activity; and MCM5 is involved in IFN- $\gamma$ -induced Stat1 $\alpha$  transcription activation.

## CHROMOSOMAL LOCATION

Genetic locus: MCM3 (human) mapping to 6p12.2; Mcm3 (mouse) mapping to 1 A4.

## SOURCE

MCM3 (G-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MCM3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9849 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MCM3 (G-19) is recommended for detection of MCM3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

MCM3 (G-19) is also recommended for detection of MCM3 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for MCM3 siRNA (h): sc-35881, MCM3 siRNA (m): sc-35882, MCM3 shRNA Plasmid (h): sc-35881-SH, MCM3 shRNA Plasmid (m): sc-35882-SH, MCM3 shRNA (h) Lentiviral Particles: sc-35881-V and MCM3 shRNA (m) Lentiviral Particles: sc-35882-V.

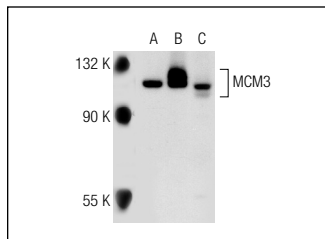
Molecular Weight of MCM3: 115 kDa.

Positive Controls: MCM3 (h): 293T Lysate: sc-173130, K-562 whole cell lysate: sc-2203 or NIH/3T3 nuclear extract: sc-2138.

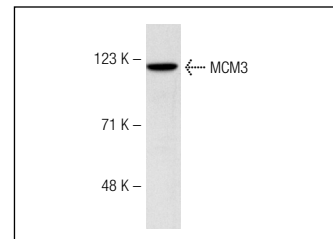
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



MCM3 (G-19): sc-9849. Western blot analysis of MCM3 expression in non-transfected 293T: sc-117752 (A), human MCM3 transfected 293T: sc-173130 (B) and K-562 (C) whole cell lysates.



MCM3 (G-19): sc-9849. Western blot analysis of MCM3 expression in NIH/3T3 nuclear extract.

## SELECT PRODUCT CITATIONS

- Rowland, B.D., et al. 2002. E2F transcriptional repressor complexes are critical downstream targets of p19 (ARF)/p53-induced proliferative arrest. *Cancer Cell* 2: 55-65.
- Maehara, K., et al. 2005. Reduction of total E2F/DP activity induces senescence-like cell cycle arrest in cancer cells lacking functional pRB and p53. *J. Cell Biol.* 168: 553-560.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **MCM3 (E-8): sc-390480** or **MCM3 (E-7): sc-365616**, our highly recommended monoclonal alternatives to MCM3 (G-19).