SANTA CRUZ BIOTECHNOLOGY, INC.

MCM6 (H-300): sc-22781

SANTA CRUZ BIOTECHNOLOGY

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 G_1 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-γ-induced Stat1α transcription activation.

CHROMOSOMAL LOCATION

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

SOURCE

MCM6 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of MCM6 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MCM6 (H-300) is recommended for detection of MCM6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

MCM6 (H-300) is also recommended for detection of MCM6 in additional species, including equine, canine and bovine.

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: ALL-SIL whole cell lysate: sc-364356, KNRK whole cell lysate: sc-2214 or Daudi cell lysate: sc-2415.

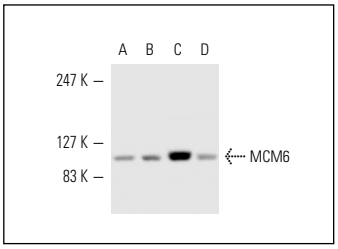
STORAGE

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

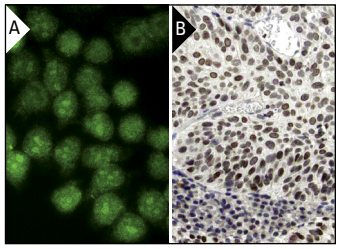
RESEARCH USE

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

DATA



MCM6 (H-300): sc-22781. Western blot analysis of MCM6 expression in Daudi (**A**), KNRK (**B**), ALL-SIL (**C**) and K-562 (**D**) whole cell lysates.



MCM6 (H-300): sc-22781. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervical cancer tissue showing nuclear staining of tumor cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Kudoh, A., et al. 2006. Phosphorylation of MCM4 at sites inactivating DNA helicase activity of the MCM4-MCM6-MCM7 complex during Epstein-Barr virus productive replication. J. Virol. 80: 10064-10072.
2. Infante, A., et al. 2008. E2F2 represses cell cycle regulators to maintain quiescence. Cell Cycle 7: 3915-3927.
3. Larrieu, D., et al. 2009. ING2 controls the progression of DNA replication forks to maintain genome stability. EMBO Rep. 10: 1168-1174.
4. Larrieu, D., et al. 2010. ING2 controls the G_1 to S-phase transition by regulating p21 expression. Cell Cycle 9: 3984-3990.
5. Drougat, L., et al. 2012. Characterization of O-GlcNAc cycling and proteomic identification of differentially O-GlcNAcylated proteins during G_1/S transition. Biochim. Biophys. Acta 1820: 1839-1848.

PROTOCOLS

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