

**#3735** Store at -20°C

# MCM7 (D10A11) XP<sup>®</sup> Rabbit mAb



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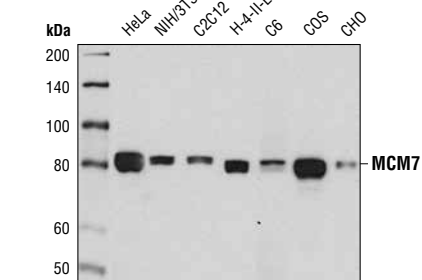
**For Research Use Only. Not For Use In Diagnostic Procedures.**

| Applications                      | Species Cross-Reactivity* | Molecular Wt. | Isotype      |
|-----------------------------------|---------------------------|---------------|--------------|
| W, IP, IHC-P, IF-IC<br>Endogenous | H, M, R, Mk, Hm, Dg       | 80 kDa        | Rabbit IgG** |

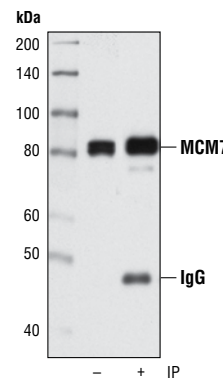
**Background:** The minichromosome maintenance (MCM) 2-7 proteins are a family of six related proteins required for the initiation and elongation of DNA replication. MCM2 through MCM7 bind together to form the heterohexameric MCM complex that is thought to act as a replicative helicase at the DNA replication fork (1-5). This complex is also a key component of the pre-replication complex (pre-RC) (reviewed in 1). Cdc6 and Cdt1 recruit the MCM complex to the origin recognition complex (ORC) during late mitosis/early G1 phase forming the pre-RC and licensing the DNA for replication (reviewed in 2). Phosphorylation of the MCM2, MCM3, MCM4 and MCM6 subunits appears to regulate MCM complex activity and the initiation of DNA synthesis (6-8). MCM proteins are removed during DNA replication, causing chromatin to become unlicensed through inhibition of pre-RC reformation. Licensing of the chromatin permits the DNA to replicate only once per cell cycle, helping to ensure that genetic alterations and malignant cell growth do not occur (reviewed in 3). Studies have also shown that the MCM complex is involved in checkpoint control by protecting the structure of the replication fork and assisting in restarting replication by recruiting checkpoint proteins after arrest (reviewed in 3,9).

**Specificity/Sensitivity:** MCM7 (D10A11) XP<sup>®</sup> Rabbit mAb detects endogenous levels of total MCM7 protein. Western blot analysis and immunofluorescent data indicate that the antibody is more reactive to primate than rodent proteins.

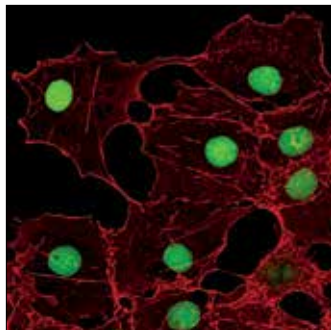
**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to carboxy-terminal residues of human MCM7.



Western blot analysis of extracts from various cell types using MCM7 (D10A11) XP<sup>®</sup> Rabbit mAb.



Immunoprecipitation of MCM7 from HeLa cell lysates using MCM7 (D10A11) XP<sup>®</sup> Rabbit mAb followed by western blot using the same antibody. Lane 1 is 5% input.



Immunohistochemical analysis of paraffin-embedded human lung carcinoma using MCM7 (D10A11) XP<sup>®</sup> Rabbit mAb.

**Entrez-Gene ID** #4176  
**UniProt ID** #P33993

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**\*Species cross-reactivity is determined by western blot.**

**\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.**

**Recommended Antibody Dilutions:**

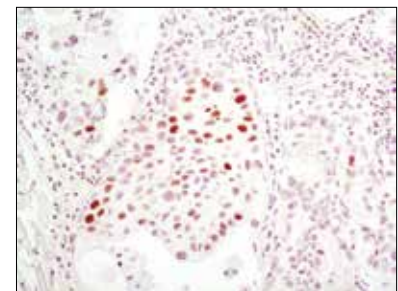
|                                 |   |
|---------------------------------|---|
| Western blotting                | 1:1000  |
| Immunoprecipitation             | 1:100   |
| Immunohistochemistry (Paraffin) | 1:400   |
| Unmasking buffer:               | Citrate   |
| Antibody diluent:               | SignalStain <sup>®</sup> Antibody Diluent #8112 |
| Immunofluorescence (IF-IC)      | 1:100   |

**For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).**

**Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.**

**Background References:**

- (1) Lei, M. and Tye, B.K. (2001) *J Cell Sci* 114, 1447-54.
- (2) Lygerou, Z. and Nurse, P. (2000) *Science* 290, 2271-3.
- (3) Forsburg, S.L. (2004) *Microbiol Mol Biol Rev* 68, 109-31.
- (4) Tye, B.K. and Sawyer, S. (2000) *J Biol Chem* 275, 34833-6.
- (5) Labib, K. et al. (2000) *Science* 288, 1643-7.
- (6) Charych, D.H. et al. (2008) *J Cell Biochem* 104, 1075-86.
- (7) Masai, H. et al. (2006) *J Biol Chem* 281, 39249-61.
- (8) Lin, D.I. et al. (2008) *Proc Natl Acad Sci USA* 105, 8079-84.
- (9) Bailis, J.M. et al. (2008) *Mol Cell Biol* 28, 1724-38.



◀ Confocal immunofluorescent analysis of COS cells using MCM7 (D10A11) XP<sup>®</sup> Rabbit mAb (green). Actin filaments have been labeled with DyLight<sup>™</sup> 554 Phalloidin #13054 (red).

**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween<sup>®</sup>20 at 4°C with gentle shaking, overnight.**

DyLight is a trademark of Thermo Fisher Scientific Inc. and its subsidiaries. Tween is a registered trademark of ICI Americas, Inc.

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.