Anti-MCM7 antibody, rabbit polyclonal

Product code	70-120
Size	100 µg
Storage	-20℃
Concentration	1.0 mg/ml
Buffer	PBS- with 50% glycerol
Purity	Purified IgG fraction with protein A from rabbit antiserum
Immunogen	Purified His6-tagged human MCM7 protein encompassing 562 -719 amino acids.
Isotype	Rabbit IgG
Reactivity	human mouse, rat and hamster. Not tested in other species.
Special notes	N/A
Application	1. Western blotting (1/1,000~1/5,000 dilution) 2. Immunoprecipitation (assay dependent) 3. Chromatin Immuno-Precipitation 4. Immunofluorescence staining (1/200~1/1,000 dilution) 5. Flow cytometry (assay dependent
Background	MCM7 (human; 718 aa, 80 kDa) acts as component of the MCM2-7 complex (MCM complex) which is the putative replicative helicase essential for 'once per cell cycle' DNA replication initiation and elongation in eukaryotic cells. The active ATPase sites in the MCM2-7 ring are formed through the interaction surfaces of two neighboring subunits such that a critical structure of a conserved arginine finger motif is provided in trans relative to the ATP-binding site of the Walker A box of the adjacent subunit. The six ATPase active sites, however, are likely to contribute differentially to the complex helicase activity. Required for S-phase checkpoint activation upon UV-induced damage. **Key words: DNA replication licensing factor,** MCM complex, DNA replication initiation, G1/S transition, DNA damage response, DNA helicase.
Data Link	UniProtKB P33993 MCM7_HUMAN
Please note: All products are FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. NOT FOR MILITARY USE.	

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Data Images: 70-120 Anti-MCM7 antibody, rabbit polyclonal

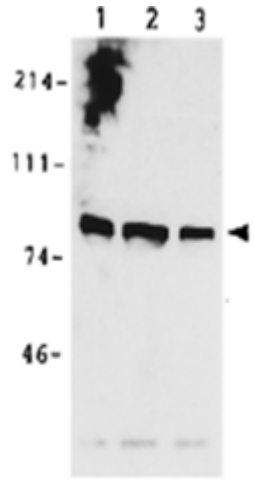

Fig.1 Identification of MCM7 protein in whole cell extracts of human cells by western blotting using anti-MCM7 antibody

Lane1. SiHa cells

Lane2. C33A cells

Lane.3 WI38 cells

All cell lines are cervical cancer derived. Samples are obtained from approximately 10^8 cells

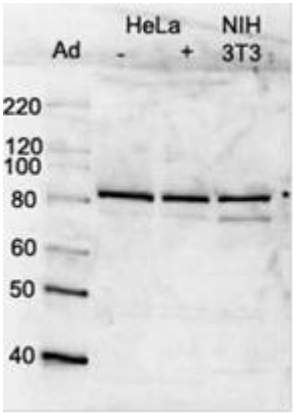

Fig. 2 Identification of MCM7 protein in whole cell extracts of human and mouse cells by western blotting using anti-MCM7 antibody.

Lane 1. Size marker proteins in kDa.

Lane 2. Extract of HeLa cells untreated (-).

Lane 3. Extract of HeLa cells treated with 100 nM adriamycin for 24 hr (+)

Lane 4. Extract of NIH3T3 (mouse) cells.

Anti-MCM7 antibody was used at 1/1,000 dilution.

* Indicates the band of MCM7 protein

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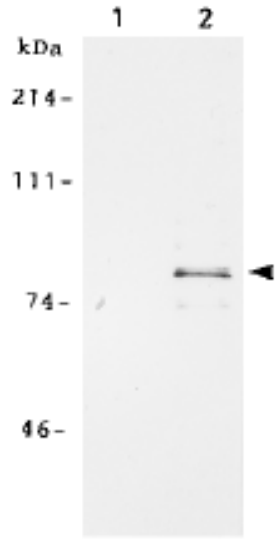

Fig. 3. Immunoprecipitation of MCM7 protein from crude extract of human fibroblast cell line WI38 by using anti-MCM7 antibody.

Lane 1; Immunoprecipitation with pre-immune serum

Lane 2; Immnoprecipitation with anti-MCM7 antiserum.

Cells were labeled with S^{35} methionine and MCM7 was immunoprecipitated with the anti-MCM7 antibody followed by SDS-PAGE and autoradiography.

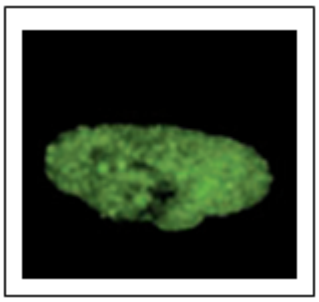

Fig. 4. Immunofluorecence staining and confocal microscopic analysis of MCM7 in G_1 phase HeLa cell nucleus by using anti-MCM7 antibody after treatment with protein cross-linking reagent, DSP and chromatin extraction. The processed cells were fixed with formaldehyde before staining.

References: This antibody was described in Ref.1 and used in the following publications.

1. Fujita M et al. hCDC47, a human member of the MCM family. Dissociation of the nucleus-bound form during S phase. J Biol Chem. (1996)271:4349-54. PMID 8626784 . **WB, IP, IF**
2. Fujita M. et al. In vivo interaction of human MCM heterohexameric complexes with chromatin. Possible involvement of ATP. J Biol Chem. (1997)272:10928-35. PMID 9099751. **WB, IP**
3. Fujita M. et al. (2002) Nuclear organization of DNA replication initiation proteins in mammalian cells. J Biol Chem. 277:10354-61. PMID 11779870. **WB, IP, IF.**
4. Sugimoto N. et al. Chromatin remodeler sucrose nonfermenting 2 homolog (SNF2H) is recruited

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onto DNA replication origins through interaction with Cdc10 protein-dependent transcript 1 (Cdt1) and promotes pre-replication complex formation.
Nucleic Acids Res. 2015 Jul 13;43(12):5898-911. PMID: 25990725 **WB, IP, ChIP, Flow Cyt: human**

5. Sugimoto N. et al. Cdt1-binding protein GRWD1 is a novel histone-binding protein that facilitates MCM loading through its influence on chromatin architecture. Nucleic Acids Res. 2015 Jul 13;43(12):5898-911. PMID:25990725. **WB, ChIP: human**
6. Sugimoto N. et al. Genome-wide analysis of the spatiotemporal regulation of firing and dormant replication origins in human cells. Nucleic Acids Res. 2018 Jul 27;46(13):6683-6696. PMID: 29893900. **ChIP: human**

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