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### Catalog No. 70-133EX

# Anti-CDC6 antibody, rabbit polyclonal, affinity-purified

**Key words:** CDC6, DNA replication, Regulation of DNA replication, Regulation of cycline-dependent kinase activity, Phosphorylation, Checkpoint, Cell cycle, Cell division. Mitosis, ATP binding, Nucleotide-triphosphatase activity, Chromatin binding

**Function:** CDC6 (Cell Division Control Protein 6 homolog) (human; 560 aa, 62.7 kDa) is involved in the initiation of DNA replication. Also participates in checkpoint controls that ensure DNA replication is completed before mitosis is initiated.

**Subcellular location:** The protein is nuclear in G1 and cytoplasmic in S-phase cells.

#### Applications:

- 1. Western blotting (1/1,000~3,000)
- 2. Immunoprecipitation (Assay dependent)
- 3. Immunofluorescence staining

Immunogen: Recombinant GST-human CDC6 (1-326 amino acids) expressed in E. coli and purified.

**Purification:** The antiserum was first adsorbed with GST conjugated agarose column and the antibody in the flow-through fraction was then purified with GST-hCDC6 conjugated agarose column.

**Size:** 100 ug

Storage: Sent at 4°C and upon arrival, spin-down and store at -20°C

Data base Link: <u>uniprot/Q99741</u> (CDC6\_HUMAN)

References: This product has been described in Ref.1 and used in the following references.

- 1. Fujita M. et al. (1999) Cell cycle regulation of human CDC6 protein. Intracellular localization, interaction with the human mcm complex, and CDC2 kinase-mediated hyperphosphorylation. <u>J Biol Chem.</u> 274:25927-32. **WB, IP, IF,** Free article
- 2. Fujita M. et al. (2002) Nuclear organization of DNA replication initiation proteins in mammalian cells. <u>J Biol Chem.</u> 277:10354-61. **WB**, **IP**, **IF**, Free article
- 3. Tatsumi Y. et al. (2006) Deregulation of Cdt1 induces chromosomal damage without rereplication and leads to chromosomal instability. <u>J Cell Sci.</u> 119:3128-40. **WB,** Free article
- 4. Sugimoto N. et al. (2009) Redundant and differential regulation of multiple licensing factors ensures prevention of re-replication in normal human cells. <u>J Cell Sci.</u> 15;:1184-91.

WB, Free article



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- 5. Yoshida K. et al. (2010) CDC6 interaction with ATR regulates activation of a replication checkpoint in higher eukaryotic cells. J Cell Sci. 123:225-35. WB, IP, Free article
- 6. Sugimoto N. et al. (2011) Chromatin remodeler sucrose nonfermenting 2 homolog (SNF2H) is recruited onto DNA replication origins through interaction with Cdc10 protein-dependent transcript 1 (Cdt1) and promotes pre-replication complex formation. J Biol Chem. 286:39200-10. WB, Free article

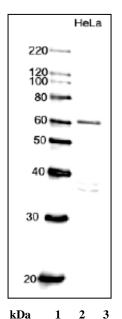
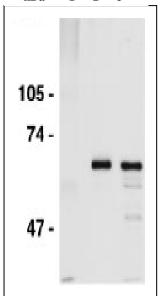


Fig.1 Identification of CDC6 protein in whole cell lysate of HeLa cells by western blotting using anti-CDC6 antibody.

Lane 1; Size marker proteins (kDa)

Lane 2; HeLa cell whole lysate (10 µg)

Anti-CDC6 antibody was used at 1/1,000 dilution.



## Fig 2. Immunoprecipitation of CDC6 protein from whole cell lysate of HeLa cells by using anti-CDC6 antibody.

CDC6 protein was precipitated from whole cell lysate of HeLa cells with anti-CDC6 antibody beads and probed with anti-CDC6 antibody by western blotting..

- 1; Control IP with non-immune IgG
- 2; Immunoprecipitates with anti-CDC6 antibody
- 3; Input (whole cell lysate)

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TOYO 2CHOME, KOTO-KU, TOKYO, 135-0016, JAPAN

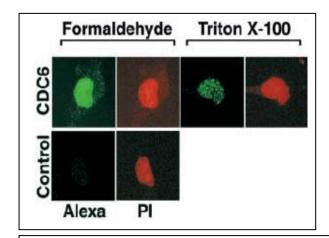
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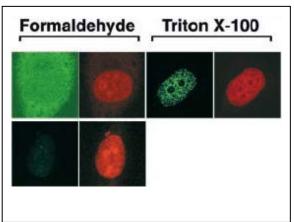
[Outside Japan] Phone: +81-3-5632-9617 [国内連絡先] Phone: +81-3-5632-9610 FAX: +81-3-5632-9618

FAX: +81-3-5632-9619



### Anti-CDC6 antibody, rabbit polyclonal, affinity-purified





G1 phase cells

Early S phase

### Immunofluorescence staining of CDC6 protein in HeLa cells with anti-CDC6 antibody,

Confocal microscopic analyses of localization of CDC6 proteins in HeLa cells in  $G_1$  or early S phase. Cells in mid to late  $G_1$ phase or hydroxyurea-treated early S phase were fixed with formaldehyde directly or after extraction with Triton X-100 and then immunostained with anti-CDC6 or control non-immune antibody (Alexa;green). The samples were further treated with propidium iodide for DNA staining (PI; red).

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TOYO 2CHOME, KOTO-KU, TOKYO, 135-0016, JAPAN

URL: http://www.cosmobio.co.jp e-mail: export@cosmobio.co.jp [Outside Japan] Phone: +81-3-5632-9617 [国內連絡先] Phone: +81-3-5632-9610

FAX: +81-3-5632-9618 FAX: +81-3-5632-9619