

## **Anti-CDT1** antibody



**Description** Unconjugated Rabbit polyclonal to CDT1

Model STJ190754

**Host** Rabbit

**Reactivity** Human

**Applications** ELISA, WB

**Gene ID** 81620

Gene Symbol CDT1

**Dilution range** WB 1:500-2000 ELISA 1:5000-20000

**Specificity** CDT1 Polyclonal Antibody detects endogenous levels of protein.

**Purification** CDT1 antibody was affinity-purified from rabbit antiserum by affinity-

chromatography using epitope-specific immunogen.

**Note** For Research Use Only (RUO).

Protein Name DNA replication factor Cdt1 Double parked homolog DUP

Molecular Weight 60 kDa

**Clonality** Polyclonal

**Conjugation** Unconjugated

**Isotype** IgG

**Formulation** Liquid form in PBS containing 50% glycerol, and 0.02% sodium azide.

**Concentration** 1 mg/ml

**Storage Instruction** Store at -20°C, and avoid repeat freeze-thaw cycles.

Database Links HGNC:24576OMIM:605525

Alternative Names DNA replication factor Cdt1 Double parked homolog DUP

**Function** Required for both DNA replication and mitosis. DNA replication licensing

factor, required for pre-replication complex assembly. Cooperates with CDC6 and the origin recognition complex (ORC) during G1 phase of the cell cycle to promote the loading of the mini-chromosome maintenance (MCM) complex onto DNA to generate pre-replication complexes (pre-RC). Required also for mitose by promoting stable kinetochore-microtubule attachments . Potential

oncogene.

**Sequence and Domain Family** The PIP-box K+4 motif mediates both the interaction with PCNA and the

recruitment of the DCX(DTL) complex: while the PIP-box interacts with PCNA, the presence of the K+4 submotif, recruits the DCX(DTL) complex,

leading to its ubiquitination.

Cellular Localization Nucleus Chromosome, centromere, kinetochore. Transiently localizes to

kinetochores during prometaphase and metaphase .

**Post-translational** Two independent E3 ubiquitin ligase complexes, SCF(SKP2) and the

DCX(DTL) complex, mediated CDT1 degradation in S phase. Ubiquitinated by the DCX(DTL) complex, in response to DNA damage, leading to its degradation. Ubiquitination by the DCX(DTL) complex is necessary to ensure proper cell cycle regulation and is PCNA-dependent: interacts with PCNA via

its PIP-box, while the presence of the containing the 'K+4' motif in the PIP

box, recruit the DCX(DTL) complex, leading to its degradation.

Phosphorylation at Thr-29 by CDK2 targets CDT1 for ubiquitination by SCF(SKP2) E3 ubiquitin ligase and subsequent degradation. The interaction with GMNN protects it against ubiquitination. Deubiquitinated by USP37. Phosphorylation by cyclin A-dependent kinases at Thr-29 targets CDT1 for ubiquitynation by SCF(SKP2) E3 ubiquitin ligase and subsequent degradation

. Phosphorylated at Thr-29 by MAPK8/JNK1, which blocks replication licensing in response to stress . Binding to GMNN is not affected by

phosphorylation.

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**Modifications** 

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