

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 Modifications	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.