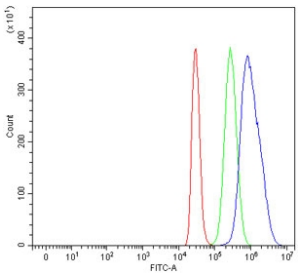
CDT1 Antibody / DNA Replication Licensing Factor Antibody (RQ6763)

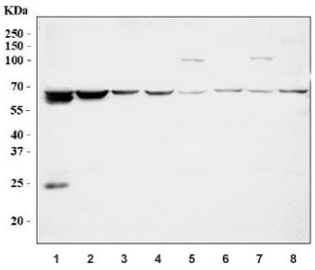
Catalog No.	Formulation	Size
RQ6763	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

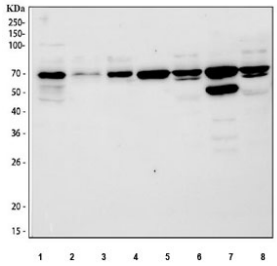
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q9H211
Applications	Western blot: 1-2ug/ml Flow cytometry: 1-3ug/million cells Immunofluorescence: 5ug/ml Direct ELISA: 0.1-0.5ug/ml
Limitations	This CDT1 Antibody / DNA Replication Licensing Factor Antibody is available for research use only.



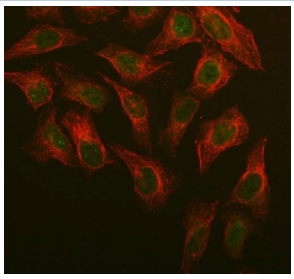
CDT1 Antibody HepG2 Flow Cytometry. Flow cytometric analysis of human HepG2 cells using CDT1 antibody demonstrates a clear rightward shift relative to the isotype control population, consistent with expression of Chromatin Licensing and DNA Replication Factor 1 (CDT1). CDT1 is a DNA replication licensing factor that regulates assembly of the pre-replication complex and ensures accurate genome duplication during cell cycle progression. The observed staining pattern supports detection of endogenous CDT1 expression and demonstrates the utility of this antibody for studies of DNA replication licensing, cellular proliferation, and genome stability pathways. Cells were stained with 1 ug antibody per million cells following blocking with goat sera.



CDT1 Antibody Multi-Species WB. Western blot analysis of human Jurkat, HepG2, Raji, and K562 cell lysates together with rat brain, rat liver, mouse brain, and mouse liver tissue lysates using CDT1 antibody demonstrates detection of a major band at approximately 60-70 kDa, consistent with the expected molecular weight of Chromatin Licensing and DNA Replication Factor 1 (CDT1). CDT1 is a DNA replication licensing factor that functions during the G1 phase of the cell cycle to establish replication competence and ensure accurate genome duplication. The observed expression across multiple human, rat, and mouse samples supports the utility of this antibody for investigating DNA replication licensing, cell cycle regulation, cellular proliferation, and genome stability pathways. Predicted molecular weight: ~60 kDa, commonly observed at 60-70 kDa.



CDT1 Antibody Human, Rat and Mouse WB. Western blot analysis of human HepG2, HeLa, and 293T cell lysates together with rat liver, rat brain, mouse liver, and mouse brain tissue lysates using CDT1 antibody demonstrates detection of a prominent band at approximately 60-70 kDa, consistent with the expected molecular weight of Chromatin Licensing and DNA Replication Factor 1 (CDT1). CDT1 is a DNA replication licensing factor that plays an essential role in pre-replication complex assembly and regulation of genome duplication during cell cycle progression. The observed expression across multiple human, rat, and mouse samples supports the utility of this antibody for studies of DNA replication licensing, cellular proliferation, cell cycle control, and genome stability mechanisms. Predicted molecular weight: ~60 kDa, commonly observed at 60-70 kDa.



CDT1 Antibody U-2 OS Cell IF. Immunofluorescent staining of FFPE human U-2 OS cells using CDT1 antibody demonstrates predominantly nuclear green fluorescence, consistent with the expected localization of Chromatin Licensing and DNA Replication Factor 1 (CDT1). CDT1 is a DNA replication licensing factor that functions in assembly of the pre-replication complex and regulation of genome duplication during cell cycle progression. Co-staining with Beta Tubulin (red) highlights the cytoskeletal network and provides contrast to the nuclear distribution of CDT1. The observed staining pattern is consistent with the established role of CDT1 in DNA replication licensing, cellular proliferation, and genome stability pathways. HIER: steam section in pH6 citrate buffer for 20 min.

Description

CDT1 Antibody / DNA Replication Licensing Factor Antibody is designed for the detection and study of CDT1 (Chromatin Licensing and DNA Replication Factor 1), a critical regulator of DNA replication that ensures accurate duplication of the genome during cell division. CDT1 functions during the G1 phase of the cell cycle by licensing replication origins before DNA synthesis begins, thereby preparing chromosomal DNA for faithful replication during S phase. Because genome duplication must occur precisely once per cell cycle, CDT1 serves as an essential component of the molecular machinery that maintains genomic integrity and cellular viability.

As a DNA replication licensing factor, CDT1 participates in assembly of the pre-replication complex through recruitment and loading of the MCM helicase complex onto chromatin. This licensing event establishes replication competence and allows DNA synthesis to proceed at the appropriate stage of the cell cycle. Tight regulation of CDT1 activity is required to prevent re-replication of genomic DNA, a potentially harmful event that can result in DNA damage, chromosomal abnormalities, and genomic instability. Multiple regulatory mechanisms therefore control CDT1 abundance and activity throughout the cell cycle to ensure proper replication origin usage.

CDT1 plays a central role in cellular proliferation and is closely associated with actively dividing cell populations. Expression of CDT1 is frequently examined in studies of cell cycle progression, developmental biology, stem cell regulation, and tissue growth. Because DNA replication licensing is fundamental to cellular expansion and tissue

maintenance, CDT1 remains an important marker for investigating mechanisms that govern normal cell division and proliferative capacity across diverse biologic systems.

Disruption of CDT1 regulation has been linked to replication stress, chromosome instability, and abnormal cell cycle progression. Consequently, CDT1 has become a significant target in research involving cancer biology, DNA damage responses, genome maintenance pathways, and cellular checkpoint regulation. Studies examining CDT1 help researchers understand how replication licensing pathways contribute to preservation of genomic stability and how defects in these mechanisms may promote disease development.

CDT1 Antibody is widely used to investigate DNA replication licensing pathways, cell cycle regulation, and molecular mechanisms controlling genome duplication. Researchers utilize CDT1 Antibody reagents to evaluate protein expression patterns, characterize replication-associated signaling networks, and study biologic processes involved in cellular proliferation, chromosome maintenance, developmental regulation, and genomic stability. As interest in replication control mechanisms continues to expand, CDT1 remains an important target in both basic and translational research.

Explore additional antibodies to cell cycle regulators, DNA replication proteins, and genome maintenance factors on our Cell Biology Antibodies page.

Application Notes

Optimal dilution of the CDT1 Antibody / DNA Replication Licensing Factor Antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids D508-L546) was used as the immunogen for the CDT1 antibody.

Storage

After reconstitution, the CDT1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

CDT1 Antibody, Chromatin Licensing and DNA Replication Factor 1 Antibody, DNA Replication Licensing Factor Antibody, Replication Licensing Protein Antibody, DNA Replication Initiation Factor Antibody, Genome Stability Protein Antibody, Cell Cycle Licensing Factor Antibody

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