abcam

ab316961

Anti-CDT1/DUP antibody [EPR27439-67]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR27439-67
Purification technique	Affinity purification Protein A
Concentration	0.506 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat

Dilution info	1/1000
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/100

Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Target data

See full target information CDT1/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 mitosis by promoting stable kinetochore-microtubule attachments (By similarity). Potential oncogene (PubMed:11850834).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CDT1 also known as DUP or CDT-1 is an important regulator in cell cycle control. CDT1 has a molecular weight of approximately 68 kDa and is expressed predominantly in the nucleus during the late M and early G1 phases of the cell cycle. This protein plays an essential role in the licensing of DNA replication origins ensuring that DNA replication occurs precisely once per cell cycle. The careful regulation of CDT1 activity is necessary to prevent re-replication which can lead to genomic instability.
Biological function summary	This protein is necessary for the correct assembly of the pre-replicative complex (pre-RC) on replication origins. CDT1 works closely with CDC6 and the minichromosome maintenance (MCM) complex to form the pre-RC facilitating the loading of MCM helicase onto the DNA. This process tightly regulates replication origin licensing and ensures DNA replication fidelity. Misregulation of CDT1 can disrupt cell cycle progression and compromise genomic integrity.
Pathways	CDT1 functions primarily in cell cycle regulation and DNA replication. It participates in the origin recognition complex (ORC) pathway that initiates DNA replication. The proper function of CDT1 is critical to these pathways working alongside other proteins such as ORC1 and MCM complex members. Together they

contribute to the accurate duplication of the genome which is pivotal for cell proliferation and maintenance of chromosomal stability.

Associated diseases and disorders

CDT1 dysregulation associates with cancer and genomic instability. Overexpression or uncontrolled activity of CDT1 can lead to re-replication increasing the risk of mutations and chromosomal aberrations characteristic of neoplastic transformations. The protein's relationship with MCM components particularly those involved in cancer-related pathways highlights its relevance in tumorigenesis. Understanding CDT1's role in these diseases guides the development of targeted therapies and diagnostic strategies.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

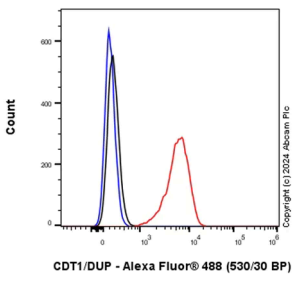
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

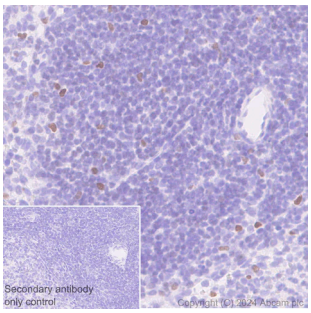
10 product images



Flow Cytometry (Intracellular) - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling CDT1/DUP with ab316961 at 1/50 dilution (1ug)/(Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961)

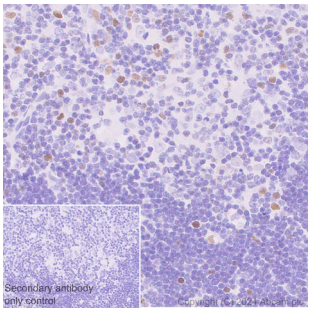
Immunohistochemical analysis of paraffin-embedded Rat spleen tissue labeling CDT1/DUP with ab316961 at 1/100 (5.06 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Nuclear staining on rat spleen. The section was incubated with ab316961 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961)

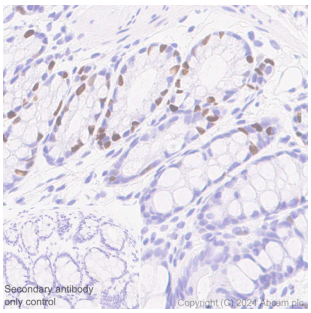
Immunohistochemical analysis of paraffin-embedded Mouse thymus tissue labeling CDT1/DUP with ab316961 at 1/100 (5.06 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Nuclear staining on mouse thymus. The section was incubated with ab316961 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961)

Immunohistochemical analysis of paraffin-embedded Rat colon tissue labeling CDT1/DUP with ab316961 at 1/100 (5.06 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

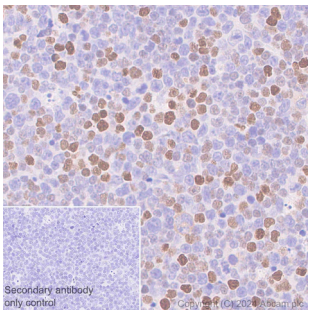
Nuclear staining on rat colon. The section was incubated with ab316961 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961)

Immunohistochemical analysis of paraffin-embedded Mouse T cell lymphoma tissue labeling CDT1/DUP with ab316961 at 1/100 (5.06 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

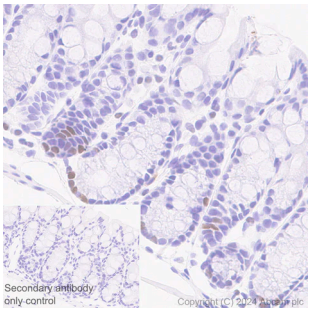
Nuclear staining on mouse T cell lymphoma. The section was incubated with ab316961 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961)

Immunohistochemical analysis of paraffin-embedded Mouse colon tissue labeling CDT1/DUP with ab316961 at 1/100 (5.06 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

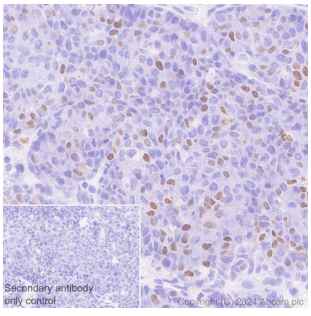
Nuclear staining on mouse colon. The section was incubated with ab316961 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961)

Immunohistochemical analysis of paraffin-embedded Mouse breast cancer tissue labeling CDT1/DUP with ab316961 at 1/100 (5.06 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

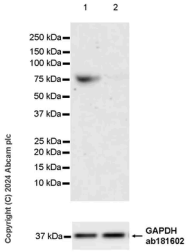
Nuclear staining on mouse breast cancer. The section was incubated with ab316961 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins

Western blot - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961)



CDT1/DUP Western blot staining using rabbit Anti-CDT1/DUP antibody

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961) at 1/1000 dilution

Lane 1:
NIH/3T3 (mouse embryonic fibroblast) transfected with scrambled siRNA control whole cell lysate at 20 µg

Lane 2:
NIH/3T3 transfected with siRNA specifically targeting CDT1 whole cell lysate at 20 µg

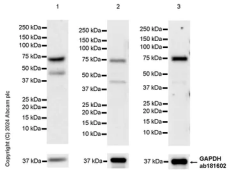
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 75 kDa, 36 kDa

Exposure time: 180s

Western blot - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961)



CDT1/DUP Western blot staining using rabbit Anti-CDT1/DUP antibody

The identity of the lower MW band at approximately 40kDa is unknown.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

Exposure time: Lane 1: 180 seconds; Lane 2-3: 81 seconds

All lanes:
Western blot - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961) at 1/1000 dilution

Lane 1:
F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate at 20 µg

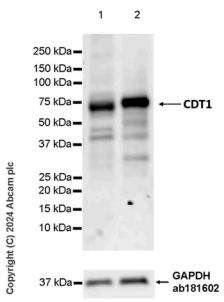
Lane 2:
Mouse colon tissue fresh lysate at 20 µg

Lane 3:
Mouse thymus tissue fresh lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 75 kDa, 36 kDa



Western blot - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961)

CDT1/DUP Western blot staining using rabbit Anti-CDT1/DUP antibody

The identity of the lower MW bands between 37kDa and 50 kDa are unknown.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-CDT1/DUP antibody [EPR27439-67] (ab316961) at 1/1000 dilution

Lane 1:
Rat testis tissue fresh lysate at 20 µg

Lane 2:
Rat spleen tissue fresh lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 75 kDa, 36 kDa

Exposure time: 136s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.