abcam

ab204515

Anti-Cdc34 antibody [EPR16808]

Recombinant | RabMAb

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	EPR16808
Purification technique	Affinity purification Protein A
Concentration	0.487 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Species	Human
Dilution info	1/50
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

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

Target data

See full target information CDC34

Function

E2 ubiquitin-conjugating enzyme that accepts ubiquitin from an E1 ubiquitin-activating protein, and catalyzes its covalent attachment to other proteins by an E3 ubiquitin-protein ligase complex (PubMed:10329681, PubMed:17588522, PubMed:20061386, PubMed:38326650). In vitro catalyzes 'Lys-48'-linked polyubiquitination (PubMed:22496338). Cooperates with the E2 UBCH5C and the SCF(FBXW11) E3 ligase complex for the polyubiquitination of NFKBIA leading to its subsequent proteasomal degradation (PubMed:10329681, PubMed:10918611, PubMed:17698585). Performs ubiquitin chain elongation building ubiquitin chains from the UBE2D3-primed NFKBIA-linked ubiquitin. UBE2D3 acts as an initiator E2, priming the phosphorylated NFKBIA target at positions 'Lys-21' and/or 'Lys-22' with a monoubiquitin. Cooperates with the SCF(SKP2) E3 ligase complex to regulate cell proliferation through ubiquitination and degradation of MYBL2 and KIP1 (PubMed:10871850, PubMed:15652359, PubMed:19112177). Involved in ubiquitin conjugation and degradation of CREM isoform ICERIIgamma and ATF15 resulting in abrogation of ICERIIgamma- and ATF5-mediated repression of cAMP-induced transcription during both meiotic and mitotic cell cycles. Involved in the regulation of the cell cycle G2/M phase through its targeting of the WEE1 kinase for ubiquitination and degradation (PubMed:19126550). Also involved in the degradation of beta-catenin (PubMed:12037680). Is target of human herpes virus 1 protein ICP0, leading to ICP0-dependent dynamic interaction with proteasomes (PubMed:11805320, PubMed:12060736).

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	The Cdc34 protein also known as Ubc3 is a ubiquitin-conjugating enzyme with a molecular mass of about 35 kDa. It is expressed in various tissues with high presence in actively dividing cells. Cdc34 plays a significant role in cell cycle regulation particularly during the transition from G1 to the S phase. It facilitates the attachment of ubiquitin molecules to target proteins marking them for degradation by the proteasome which is important for controlling the abundance of specific proteins involved in cell cycle progression.
Biological function summary	Cdc34 functions as a member of the SCF (SKP1-CUL1-F-box) ubiquitin ligase complex. This complex targets a range of key regulatory proteins for ubiquitination influencing processes such as DNA replication and repair. By mediating protein degradation Cdc34 helps regulate the cellular levels of cyclins which are essential for proper cell cycle advancement. Its activity ensures timely

	degradation of these cyclins thereby preventing unscheduled cell cycle transitions that can lead to cellular dysfunction.
Pathways	Cdc34 is integrated in the ubiquitin-proteasome pathway and the cell cycle pathway. In these contexts Cdc34's activity closely interacts with proteins like Skp2 another component of the SCF complex which regulates G1-S phase transition. Cdc34-related pathways ensure that protein turnover is tightly controlled which is essential for maintaining cellular homeostasis and responding to internal and external signals during cell proliferation.
Associated diseases and disorders	Cdc34 links to cancer and neurodegenerative disorders. Alterations in Cdc34 function can result in the aberrant degradation of regulatory proteins contributing to unchecked cell proliferation a hallmark of cancer. Furthermore imbalances in ubiquitin-proteasome pathway components including Cdc34 relate to neurodegenerative diseases where protein aggregation occurs. Connections to proteins such as p27 which regulates cell cycle and accumulation issues in neurological tissues highlight the significance of Cdc34 in disease mechanisms.

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

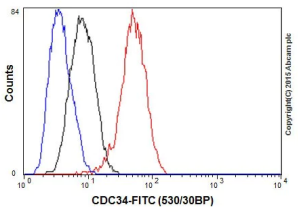
We do not recommend this combination. It is not covered by our product promise.

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.

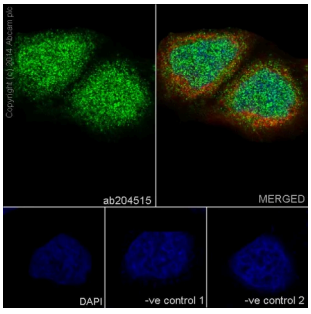
9 product images



Flow Cytometry (Intracellular) - Anti-Cdc34 antibody [EPR16808] (ab204515)

Cdc34 Flow Cytometry (Intracellular) staining using rabbit Anti-Cdc34 antibody

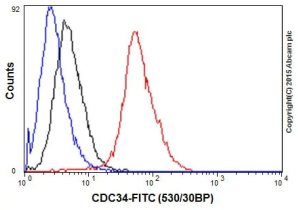
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling Cdc34 with ab204515 at 1/100 dilution (red) compared with a rabbit monoclonal IgG isotype control (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/500 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-Cdc34 antibody [EPR16808] (ab204515)

Cdc34 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Cdc34 antibody

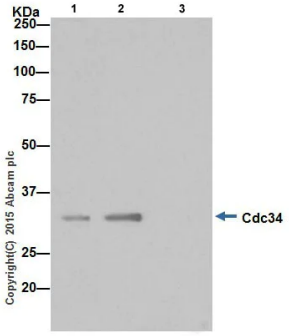
Immunofluorescent analysis of 4% paraformaldehyde-fixed 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling Cdc34 with ab204515 at 1/50 dilution followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing nuclear and cytoplasmic staining on HeLa cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/1000 dilution (red).
The negative controls are as follows:
-ve control 1: ab204515 at 1/50 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/1000 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-Cdc34 antibody [EPR16808] (ab204515)

Cdc34 Flow Cytometry (Intracellular) staining using rabbit Anti-Cdc34 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed Jurkat (Human T cell leukemia cells from peripheral blood) cells labeling Cdc34 with ab204515 at 1/100 dilution (red) compared with a rabbit monoclonal IgG isotype control (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/500 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-Cdc34 antibody [EPR16808] (ab204515)

Cdc34 was immunoprecipitated from 1mg of K562 (Human chronic myelogenous leukemia cells from bone marrow) whole cell lysate with ab204515 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab204515 at 1/1000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution.
Lane 1: K562 whole cell lysate 10ug (Input).

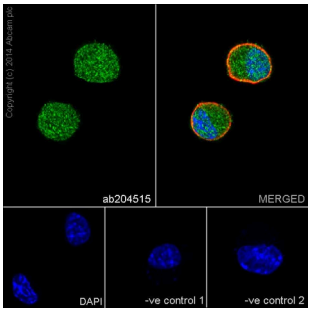
Lane 2: ab204515 IP in K562 whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab204515 in K562 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 5 seconds.
All lanes:
Immunoprecipitation - Anti-Cdc34 antibody [EPR16808] (ab204515)

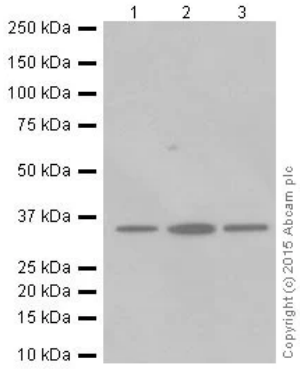
Predicted band size: 26 kDa



Immunocytochemistry/ Immunofluorescence - Anti-Cdc34 antibody [EPR16808] (ab204515)

Cdc34 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Cdc34 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed 0.1% Triton X-100 permeabilized Neuro-2a (Mouse neuroblastoma cells) cells labeling Cdc34 with ab204515 at 1/50 dilution followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing nuclear and cytoplasmic staining on Neuro-2a cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/1000 dilution (red).
The negative controls are as follows:
-ve control 1: ab204515 at 1/50 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/1000 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/1000 dilution.



Western blot - Anti-Cdc34 antibody [EPR16808] (ab204515)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Anti-BTK (phospho Y223) antibody [EP420Y] (Alexa Fluor® 488) (ab204516) at 1/5000 dilution

Lane 1:
293 (Human epithelial cells from embryonic kidney) whole cell lysate at 10 µg

Lane 2:
K562 (Human chronic myelogenous leukemia cells from bone marrow) whole cell lysate at 10 µg

Lane 3:
Jurkat (Human T cell leukemia cells from peripheral blood) whole cell lysate at 10 µg

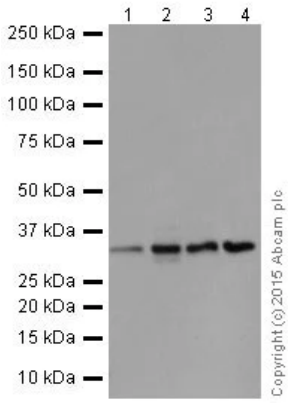
Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/100000 dilution

Predicted band size: 26 kDa

Observed band size: 35 kDa

Exposure time: 5s



Western blot - Anti-Cdc34 antibody [EPR16808] (ab204515)

Cdc34 Western blot staining using rabbit Anti-Cdc34 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Cdc34 antibody [EPR16808] (ab204515) at 1/5000 dilution

Lane 1:
C6 (Rat glial tumor cells) whole cell lysate at 10 µg

Lane 2:
RAW 264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) whole cell lysate at 10 µg

Lane 3:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysate at 10 µg

Lane 4:
NIH/3T3 (Mouse embyro fibroblast cells) whole cell lysate at 10 µg

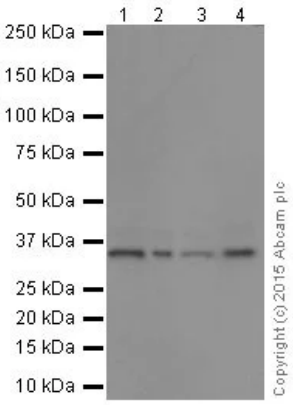
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 26 kDa

Observed band size: 35 kDa

Exposure time: 2s



Western blot - Anti-Cdc34 antibody [EPR16808] (ab204515)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Cdc34 antibody [EPR16808] (ab204515) at 1/1000 dilution

Lane 1:
Mouse brain tissue lysate at 10 µg

Lane 2:
Mouse heart tissue lysate at 10 µg

Lane 3:
Mouse kidney tissue lysate at 10 µg

Lane 4:
Rat heart tissue lysate at 10 µg

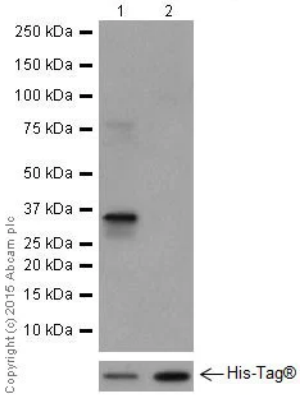
Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 26 kDa

Observed band size: 35 kDa

Exposure time: 30s



Western blot - Anti-Cdc34 antibody [EPR16808] (ab204515)

All lanes:
Western blot - Anti-Cdc34 antibody [EPR16808] (ab204515) at 1/5000 dilution

Lane 1:
Recombinant protein fragment human Cdc34 at 0.01 µg

Lane 2:
Recombinant protein fragment human Cdc34B at 0.01 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 26 kDa

Observed band size: 35 kDa

Exposure time: 1s

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