abcam

ab308510

Anti-CHCHD10 antibody [EPR26966-33]

Recombinant | RabMAb | KO Validated | 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	EPR26966-33
Purification technique	Affinity purification Protein A
Concentration	0.512 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	0.1 µg/mL
Notes	-

Species	Rat

Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

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

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

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

Not recommended

Species	Mouse
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

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

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information CHCHD10

Function	May be involved in the maintenance of mitochondrial organization and mitochondrial cristae structure.

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 CHCHD10 protein also known as coiled-coil-helix-coiled-coil-helix domain containing 10 is a mitochondrial protein with a molecular weight of approximately 14 kDa. It is specifically localized within the intermembrane space of mitochondria and is expressed in various tissues with high levels in the brain heart and skeletal muscles. CHCHD10 plays a role in maintaining mitochondrial structure and function contributing to the stability and regulation of mitochondrial cristae.
Biological function summary	The CHCHD10 protein participates in mitochondrial processes that regulate cellular energy production and apoptosis. It is part of a complex network within mitochondria interacting with other proteins to support mitochondrial DNA maintenance and oxidative phosphorylation. Its presence helps maintain cellular homeostasis by preventing mitochondrial dysfunction which can otherwise trigger oxidative stress and cellular damage.
Pathways	CHCHD10 is integral in the maintenance of mitochondrial quality control and respiratory pathways. It is involved in the mitochondrial inner membrane organizing system (MINOS) complex that is important for organizing and stabilizing mitochondrial membrane structure. CHCHD10 also interacts with proteins like OPA1 and CHCHD2 which are important for mitochondrial dynamics and energy regulation demonstrating its key role in these pathways.
Associated diseases and disorders	CHCHD10 mutations are linked to conditions like amyotrophic lateral sclerosis (ALS) and frontotemporal dementia (FTD). The interaction between CHCHD10 and other mitochondria-related proteins like SOD1 and TDP-43 highlights its role in the pathogenesis of these neurodegenerative diseases. These mutations lead to mitochondrial dysfunction which contributes to the degeneration of motor neurons in ALS and the degeneration of frontal and temporal lobes in FTD.

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.

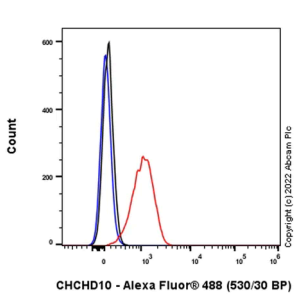
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

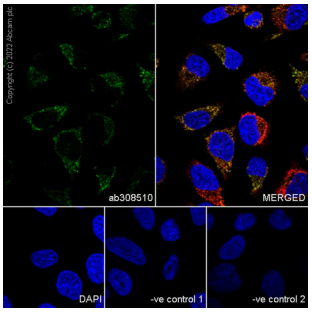
---

9 product images



Flow Cytometry (Intracellular) - Anti-CHCHD10 antibody [EPR26966-33] (ab308510)

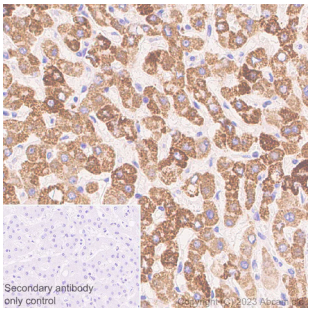
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling CHCHD10 with ab308510 at 1/50 dilution (1 ug)/Red (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-CHCHD10 antibody [EPR26966-33] (ab308510)

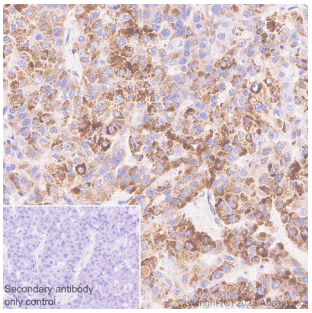
CHCHD10 Immunocytochemistry/ Immunofluorescence staining of HeLa cell line using rabbit Anti-CHCHD10 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 100% Methanol permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling CHCHD10 with ab308510 at 1/50 (10.24 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal showing mitochondrial staining in HeLa cell line. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). anti-COX IV mouse monoclonal antibody - Mitochondrial Marker was used to counterstain tubulin at 1/50 0.5 ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



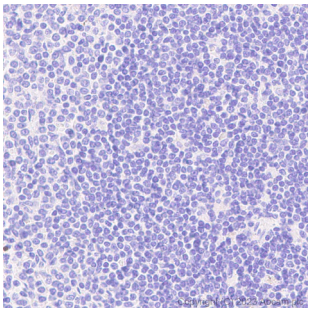
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CHCHD10 antibody [EPR26966-33] (ab308510)

Immunohistochemical analysis of paraffin-embedded Human liver tissue labelling CHCHD10 with ab308510 at 1/500 (1.024 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human liver.The section was incubated with ab308510 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 Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



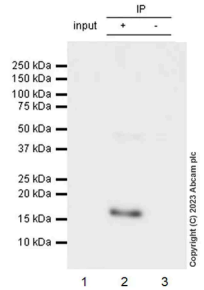
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CHCHD10 antibody [EPR26966-33] (ab308510)

Immunohistochemical analysis of paraffin-embedded Human hepatocellular tissue labelling CHCHD10 with ab308510 at 1/500 (1.024 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human hepatocellular carcinoma.The section was incubated with ab308510 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 Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CHCHD10 antibody [EPR26966-33] (ab308510)

Immunohistochemical analysis of paraffin-embedded Human spleen tissue labelling CHCHD10 with ab308510 at 1/500 (1.024 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: no staining on human spleen (PMID: 24934289).The section was incubated with ab308510 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 Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunoprecipitation - Anti-CHCHD10 antibody [EPR26966-33] (ab308510)

CHCHD10 was immunoprecipitated from 0.35 mg HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate with ab308510 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab308510 at 1/1000 dilution. VeriBlot for IP secondary antibody (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate
Lane 2: ab308510 IP in HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab308510 in HeLa whole cell lysate

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

Exposure time: 8 seconds

All lanes:
Immunoprecipitation - Anti-CHCHD10 antibody [EPR26966-33] (ab308510) at 1/1000 dilution

All lanes:

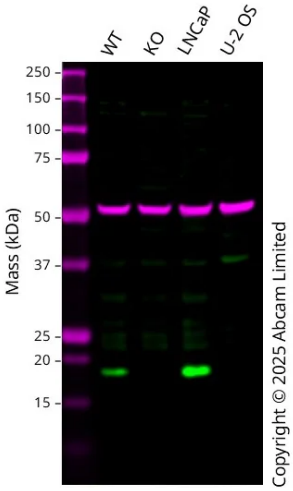
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate at 10 µg

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 18 kDa

Exposure time: 8s



Western blot - Anti-CHCHD10 antibody [EPR26966-33] (ab308510)

CHCHD10 Western blot staining using rabbit Anti-CHCHD10 antibody

Western blot: Rabbit Monoclonal[EPR26966-33] to CHCHD10 ab308510 staining at 0.1 µg/mL, shown in green; Mouse anti alpha Tubulin (ab7291) loading control staining at 1/20,000 dilution, shown in magenta. A band was observed at 18 kDa in Wild-type A549 cell lysates with no signal observed at this size in CHCHD10 knockout A549 cell line (ab326017). To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3pc Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4°C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-CHCHD10 antibody [EPR26966-33] (ab308510) at 0.1 µg/mL

Lane 1:
Wild-type A549 at 20 µg

Lane 2:
Western blot - Human CHCHD10 knockout A549 cell line (ab326017) at 20 µg

Lane 3:
LNCaP at 20 µg

Lane 4:
U-2 OS at 20 µg

Secondary

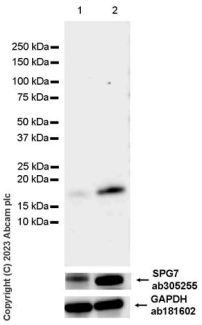
All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 14 kDa

Observed band size: 18 kDa

Western blot - Anti-CHCHD10 antibody [EPR26966-33] (ab308510)



Blocking and diluting buffer and concentration: 5% NFDM/TBST. In Western blot, anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution. Anti-SPG7 (ab305255) staining at 1/200000 dilution. Exposure time: 59 seconds.
All lanes:
Western blot - Anti-CHCHD10 antibody [EPR26966-33] (ab308510) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) non-mitochondrial fraction at 20 µg

Lane 2:
HeLa mitochondrial fraction at 20 µg

Secondary

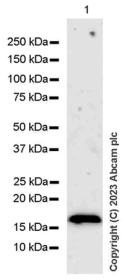
All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Predicted band size: 14 kDa

Observed band size: 18 kDa

Exposure time: 59s

Western blot - Anti-CHCHD10 antibody [EPR26966-33] (ab308510)



Blocking and diluting buffer and concentration: 5% NFDM/TBST. Exposure time: 180 seconds.
All lanes:
Rat-1 (rat embryonic fibroblast) whole cell lysate at 20 µg

Predicted band size: 14 kDa

Observed band size: 18 kDa

Exposure time: 180s

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