abcam

ab300437

Anti-CHD5 antibody [EPR23858-3-8]

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	EPR23858-3-8
Purification technique	Affinity purification Protein A
Concentration	0.474 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Not recommended

Species	Rat
Dilution info	-
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Species	Mouse
Dilution info	-
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat, Mouse
Dilution info	-
Notes	-

Target data

See full target information CHD5

Function ATP-dependent chromatin-remodeling factor that binds DNA through histones and regulates gene transcription. May specifically recognize and bind trimethylated 'Lys-27' (H3K27me3) and non-methylated 'Lys-4' of histone H3. Acts as a component of the histone deacetylase NuRD complex which participates in the remodeling of chromatin. Plays a role in the development of the nervous system by activating the expression of genes promoting neuron terminal differentiation. In parallel, it may also positively regulate the trimethylation of histone H3 at 'Lys-27' thereby specifically repressing genes that promote the differentiation into non-neuronal cell lineages. Regulates the expression of genes involved in cell proliferation and differentiation. Downstream activated genes may include CDKN2A that positively regulates the p53/TP53 pathway, which in turn, prevents cell proliferation. In spermatogenesis, it probably regulates histone hyperacetylation and the replacement of histones by transition proteins in

chromatin, a crucial step in the condensation of spermatid chromatin and the production of functional spermatozoa.

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	CHD5 also known as Chromodomain Helicase DNA Binding Protein 5 is a member of the chromodomain helicase DNA-binding family of proteins. CHD5 weighs around 240 kDa and plays a significant role in chromatin remodeling impacting gene transcription regulation. This protein is primarily expressed in neural tissues particularly in the brain where it influences neuronal differentiation and development. As part of a larger family CHD5 shares structural similarities with other CHD proteins involved in modifying the structure of chromatin.

Biological function summary	CHD5 acts as a tumor suppressor influencing cell cycle progression and apoptosis. It interacts with nucleosome structures as part of a larger chromatin remodeling complex. Through its activity CHD5 affects transcriptional regulation of several genes involved in neurodevelopment and carcinogenesis. It works in coordination with other chromatin remodelers such as CHD4 to maintain genomic stability by facilitating appropriate DNA packaging and gene accessibility.
Pathways	CHD5 interacts with pathways involved in cell cycle regulation and DNA damage response. It plays an important role in the p53 signaling pathway an important pathway maintaining genomic integrity and preventing tumor formation. CHD5 interacts with proteins such as p53 and HDAC1 contributing to the transcriptional regulation tasks essential for maintaining cellular homeostasis and preventing oncogenic transformations.
Associated diseases and disorders	CHD5 has a strong association with neurodegenerative diseases and various cancers. Low expression levels of CHD5 have been linked to neuroblastoma and glioma conditions where its tumor-suppressive role is compromised. The protein's interaction with p53 highlights its importance in activation pathways suppressed in cancerous cells. Additionally its chromatin remodeling function may hint at important insights in treating these diseases through targeted genetic or therapeutic interventions.

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

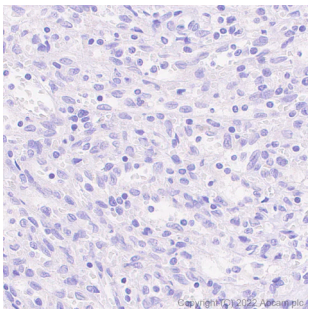
We do not recommend this combination. It is not covered by our product promise.

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.

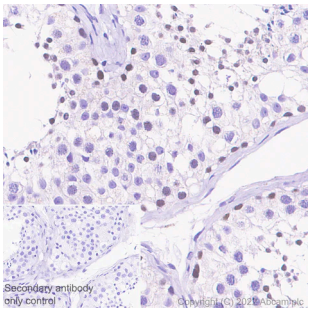
6 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CHD5 antibody [EPR23858-3-8] (ab300437)

CHD5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human spleen using rabbit Anti-CHD5 antibody

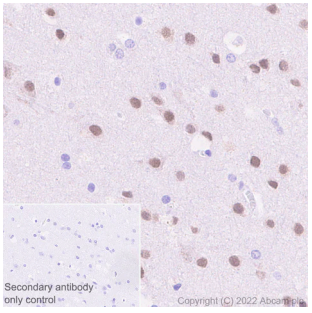
Immunohistochemical analysis of paraffin-embedded human spleen tissue labeling CHD5 with ab300437 at 1/2000 dilution (0.237 µg/mL) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Negative control: No staining on human spleen. The section was incubated with ab300437 at 4°C overnight. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Heat mediated antigen retrieval using ab208572 (Universal HIER antigen retrieval reagent)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CHD5 antibody [EPR23858-3-8] (ab300437)

CHD5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human testis using rabbit Anti-CHD5 antibody

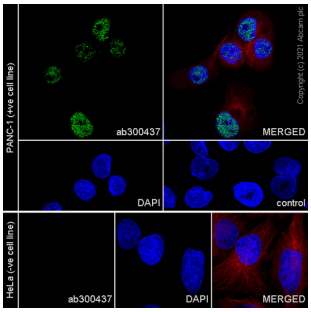
Immunohistochemical analysis of paraffin-embedded human testis tissue labeling CHD5 with ab300437 at 1/2000 dilution (0.237 µg/mL) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on human testis. The section was incubated with ab300437 at 4°C overnight. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Heat mediated antigen retrieval using ab208572 (Universal HIER antigen retrieval reagent)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CHD5 antibody [EPR23858-3-8] (ab300437)

CHD5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human cerebrum using rabbit Anti-CHD5 antibody

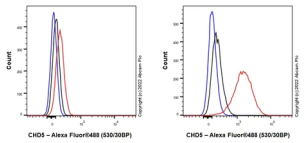
Immunohistochemical analysis of paraffin-embedded human cerebrum tissue labeling CHD5 with ab300437 at 1/2000 dilution (0.237 µg/mL) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on human cerebrum. The section was incubated with ab300437 at 4°C overnight. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Heat mediated antigen retrieval using ab208572 (Universal HIER antigen retrieval reagent)



Immunocytochemistry/ Immunofluorescence - Anti-CHD5 antibody [EPR23858-3-8] (ab300437)

CHD5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CHD5 antibody

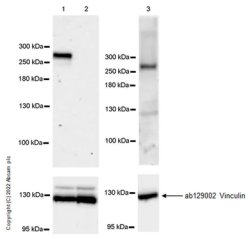
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized PANC-1(human pancreatic epithelioid carcinoma epithelial cells) labeling CHD5 with ab300437 at 1/500 (0.948 µg/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 µg/ml) dilution (Green). Confocal image showing nuclear staining in PANC-1 cell line. Negative control: HeLa (PMID: 29682202). ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5 µg/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 µg/ml) dilution.



Flow Cytometry (Intracellular) - Anti-CHD5 antibody [EPR23858-3-8] (ab300437)

CHD5 Flow Cytometry (Intracellular) staining using rabbit Anti-CHD5 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervix adenocarcinoma epithelial cell Left) / PANC-1 (human pancreatic epithelioid carcinoma epithelial cell Right) cells labelling CHD5 with ab300437 at 1/500 dilution (0.1µg) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488 ab150081) at 1/2000 dilution was used as the secondary antibody. Negative control: HeLa (PMID: 29682202).



Western blot - Anti-CHD5 antibody [EPR23858-3-8] (ab300437)

CHD5 Western blot staining using rabbit Anti-CHD5 antibody

The molecular weight observed is consistent with what has been described in the literature (PMID: 25247294). Negative control: HeLa (PMID: 21931736). Lysates were made freshly and used in WB immediately to minimize protein degradation. This blot of lane 3 was developed using a high sensitivity ECL substrate. Lanes 1-2: ; lane 3: 147 seconds. Blocking Buffer and concentration: 5% NFDM/TBST
All lanes:
Western blot - Anti-CHD5 antibody [EPR23858-3-8] (ab300437) at 1/1000 dilution

Lane 1:
PANC-1 (human pancreatic epithelioid carcinoma epithelial cell) whole cell lysate

Lane 2:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate

Lane 3:
IMR-32 (human neuroblastoma neuroblast) whole cell lysate

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 260 kDa

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