abcam

ab282591

Anti-CHD5 antibody [EPR23858-3] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR23858-3
Purification technique	Affinity purification Protein A
Concentration	1.026 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab282591 is the carrier-free version of ab259857.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

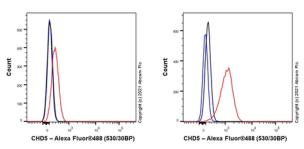
We do not recommend this combination. It is not covered by our product promise.

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.

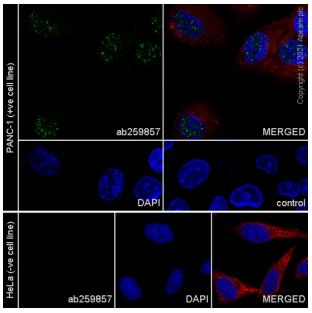
3 product images



Flow Cytometry (Intracellular) - Anti-CHD5 antibody [EPR23858-3] - BSA and Azide free (ab282591)

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

This data was developed using ab259857, the same antibody clone in a different buffer formulation.
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 ab259857 at 1/500 dilution (0.1ug)/ (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). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody. **Negative control**: HeLa (PMID: 29682202).



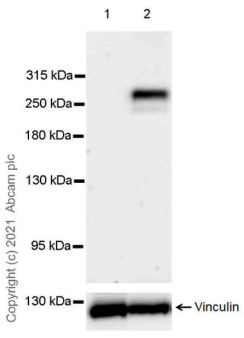
Immunocytochemistry/ Immunofluorescence - Anti-CHD5 antibody [EPR23858-3] - BSA and Azide free (ab282591)

CHD5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CHD5 antibody

This data was developed using ab259857, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 100% methanol-fixed, 0.1% TritonX-100 permeabilized PANC-1 cells labelling CHD5 with ab259857 at 1/100 (5.55 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green) Confocal image showing nuclear staining in PANC-1 cell line. **Negative control**: HeLa (PMID: 29682202) is observed.

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 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 dilution.



Western blot - Anti-CHD5 antibody [EPR23858-3] - BSA and Azide free (ab282591)

CHD5 Western blot staining using rabbit Anti-CHD5 antibody

This data was developed using 259857, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST

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.

Exposure time: 136 seconds

All lanes:
Western blot - Anti-CHD5 antibody [EPR23858-3] (ab259857) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 40 µg

Lane 2:
PANC-1 (human pancreatic epithelioid carcinoma epithelial cell) whole cell lysate at 40 µg

Secondary

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

Predicted band size: 223 kDa

Observed band size: 260 kDa

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