abcam

ab250495

Anti-CHD4 antibody [EPR12229] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR12229
Purification technique	Affinity purification
Specificity	The immunogen used for this product shares 95% homology with CDH3. Cross-reactivity with this protein has not been confirmed experimentally.
Concentration	1.016 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information CHD4

Function	ATP-dependent chromatin-remodeling factor that binds and distorts nucleosomal DNA (PubMed:28977666, PubMed:32543371). Acts as a component of the histone deacetylase NuRD complex which participates in the remodeling of chromatin (PubMed:16428440, PubMed:17626165, PubMed:28977666, PubMed:9804427). Localizes to acetylated damaged chromatin in a ZMYND8-dependent manner, to promote transcriptional repression and double-strand break repair by homologous recombination (PubMed:25593309). Involved in neurogenesis (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab250495 is the carrier-free version of ab181370.

Species reactivity

Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	CHD4 also known as CDH4 is a protein that functions as part of the nucleosome remodeling and deacetylase (NuRD) complex. CHD4 has a molecular mass of approximately 218 kDa. The protein contains a chromo domain a helicase domain and two PHD-type zinc fingers. It is expressed ubiquitously in human tissues with higher expression levels seen in the spleen and fetal brain. This protein plays an essential role in DNA transcription regulation by modifying chromatin structure.
Biological function summary	CHD4 acts within the NuRD complex to mediate transcriptional repression. This complex combines chromatin remodeling with histone deacetylation to alter chromatin dynamics affecting gene expression. CHD4's involvement in the complex facilitates the static organization of chromatin therefore contributing to transcriptional silencing of specific gene sets. The protein's activity is often in response to environmental and developmental cues playing an integral role in cellular differentiation and proliferation processes.
Pathways	CHD4 connects closely with DNA damage repair and cell cycle regulation pathways. It participates actively in the DNA damage response pathway by facilitating the repair of double-strand breaks working alongside proteins such as ATM and ATR. CHD4 also influences the cell cycle by interacting with cyclins and cyclin-dependent kinases which maintain proper cell cycle progression and check points.
Associated diseases and disorders	CHD4 has been linked to various cancers and neurodevelopmental disorders. Alterations or mutations in CHD4 have associations with certain cancers like colorectal cancer where it affects cellular proliferation and migration. In neurodevelopmental disorders disrupted CHD4 function may lead to chromatin misregulation contributing to intellectual disabilities. CHD4’s interactions with proteins such as p53 in cancer and MeCP2 in neurological conditions highlight its connections 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.

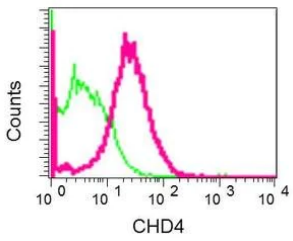
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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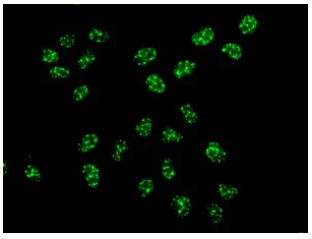
3 product images



Flow Cytometry (Intracellular) - Anti-CHD4 antibody [EPR12229] - BSA and Azide free (ab250495)

CHD4 Flow Cytometry (Intracellular) staining using rabbit Anti-CHD4 antibody

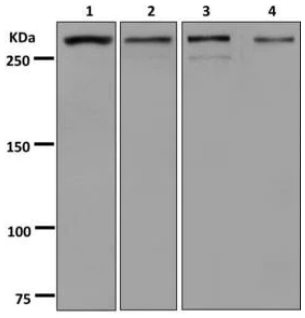
This data was developed using ab181370, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized 293T cells labeling CHD4 with ab181370 at 1/10 dilution (red) or a rabbit IgG (negative) (green).



Immunocytochemistry/ Immunofluorescence - Anti-CHD4 antibody [EPR12229] - BSA and Azide free (ab250495)

CHD4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CHD4 antibody

This data was developed using ab181370, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of HeLa cells labeling CHD4 with ab181370 at 1/50 dilution.



Western blot - Anti-CHD4 antibody [EPR12229] - BSA and Azide free (ab250495)

This data was developed using ab181370, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-CHD4 antibody [EPR12229] (ab181370) at 1/10000 dilution

Lane 1:
NCCIT cell lysate at 10 µg

Lane 2:
293T (Human embryonic kidney epithelial cell) cell lysate at 10 µg

Lane 3:
HeLa cell lysate at 10 µg

Lane 4:
Jurkat cell lysate at 10 µg

Predicted band size: 218 kDa

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