abcam

ab277641

Anti-PHF19 antibody [EPR23919-31] - 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	EPR23919-31
Purification technique	Affinity purification Protein A
Concentration	1.022 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

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	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information PHF19

Function

Polycomb group (PcG) protein that specifically binds histone H3 trimethylated at 'Lys-36' (H3K36me3) and recruits the PRC2 complex, thus enhancing PRC2 H3K27me3 methylation activity (PubMed:15563832, PubMed:18691976, PubMed:23104054, PubMed:23160351, PubMed:23228662, PubMed:23273982, PubMed:29499137, PubMed:31959557). Probably involved in the transition from an active state to a repressed state in embryonic stem cells: acts by binding to H3K36me3, a mark for transcriptional activation, and recruiting H3K36me3 histone demethylases RIOX1 or KDM2B, leading to demethylation of H3K36 and recruitment of the PRC2 complex that mediates H3K27me3 methylation, followed by de novo silencing (PubMed:23160351). Recruits the PRC2 complex to CpG islands and contributes to embryonic stem cell self-renewal. Also binds histone H3 dimethylated at 'Lys-36' (H3K36me2) (PubMed:23104054). Isoform 1 and isoform 2 inhibit transcription from an HSV-tk promoter (PubMed:15563832).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab277641 is the carrier-free version of ab259947.

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	PHF19 often known as PHD Finger Protein 19 has important roles in chromatin remodeling by interacting with and regulating Polycomb Repressive Complex 2 (PRC2). This protein has a molecular mass approximately 74 kDa and expresses broadly in tissues with significant expression observed in proliferative and embryonic tissues. It contains PHD finger domains which lend it the ability to recognize specific histone modifications an important function in controlling gene expression.

Biological function summary	PHF19 plays a part in maintaining transcriptional repression of specific genes. It acts as an accessory component of the PRC2 complex which is responsible for catalyzing the tri-methylation of histone H3 on lysine 27 (H3K27me3) an important epigenetic mark for gene silencing. This interaction with PRC2 allows PHF19 to influence stem cell pluripotency and differentiation processes by targeting particular genomic loci for repression.
Pathways	PHF19 plays a role in the epigenetic regulation pathway by maintaining silenced gene states that affect the Wnt signaling pathway. This relationship ensures that developmental signals are tightly controlled. It collaborates with proteins like EZH2 a core component of PRC2 to affect these pathways. Furthermore PHF19 facilitates cross-talk with other chromatin-modifying proteins to reinforce the silencing effect.
Associated diseases and disorders	PHF19 has connections to certain cancers such as prostate cancer and lymphoma where its disruption leads to deregulated expression of genes involved in cell cycle and proliferation. It affects these diseases through its modulation of EZH2's methyltransferase activity which becomes aberrant in these disorders leading to inappropriate gene silencing. PHF19's dysregulation also correlates with reactivation of oncogenes and loss of tumor suppressor gene silencing marking it as a significant factor in these pathological conditions.

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

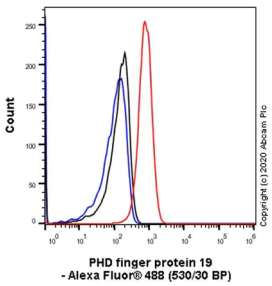
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images

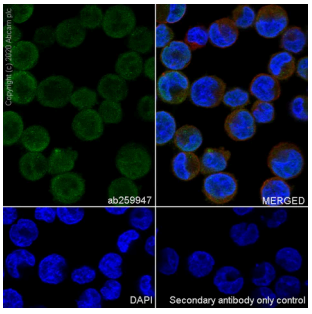


Flow Cytometry (Intracellular) - Anti-PHF19 antibody [EPR23919-31] - BSA and Azide free (ab277641)

PHF19 Flow Cytometry (Intracellular) staining using rabbit Anti-PHF19 antibody

This data was developed using ab259947, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labelling PHF19 with ab259947 at 1/50 dilution (1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Black) 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.

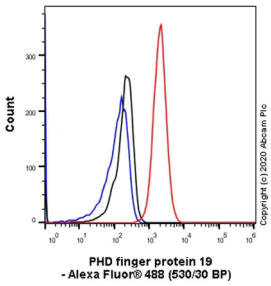


Immunocytochemistry/ Immunofluorescence - Anti-PHF19 antibody [EPR23919-31] - BSA and Azide free (ab277641)

PHF19 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PHF19 antibody

This data was developed using ab259947, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized K-562 (human chronic myelogenous leukemia lymphoblast) cells labelling PHF19 with ab259947 at 1/100 dilution (4.94 ug/ml), followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing nuclear and cytoplasmic staining in K562 cell line 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 ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.

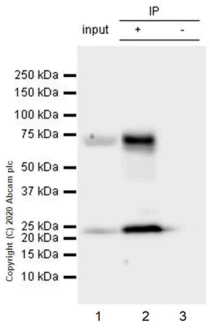


Flow Cytometry (Intracellular) - Anti-PHF19 antibody [EPR23919-31] - BSA and Azide free (ab277641)

PHF19 Flow Cytometry (Intracellular) staining using rabbit Anti-PHF19 antibody

This data was developed using ab259947, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized K-562 (human chronic myelogenous leukemia lymphoblast) cells labelling PHF19 with ab259947 at 1/50 dilution (1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Black) 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.



Immunoprecipitation - Anti-PHF19 antibody [EPR23919-31] - BSA and Azide free (ab277641)

This data was developed using ab259947, the same antibody clone in a different buffer formulation.
PHF19 was immunoprecipitated from 0.35 mg K-562 (human chronic myelogenous leukemia lymphoblast) whole cell lysate with ab259947 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab259947 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: K-562 (human chronic myelogenous leukemia lymphoblast) whole cell lysate 10 ug

Lane 2: ab259947 IP in K-562 whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab259947 in K-562 whole cell lysate

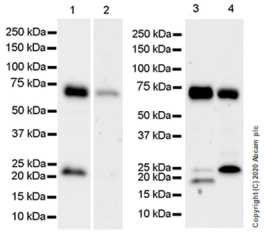
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 15 seconds.

All lanes:
Immunoprecipitation - Anti-PHF19 antibody [EPR23919-31] (ab259947)

Predicted band size: 66 kDa

Observed band size: 22 kDa, 70 kDa



Western blot - Anti-PHF19 antibody [EPR23919-31] - BSA and Azide free (ab277641)

PHF19 Western blot staining using rabbit Anti-PHF19 antibody

This data was developed using ab259947, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Exposure times: Lane 1: 15 seconds; Lane 2: 3 minutes; Lanes 3-4: 147 seconds.

All lanes:

Western blot - Anti-PHF19 antibody [EPR23919-31] (ab259947) at 1/1000 dilution

Lane 1:
K-562 (human chronic myelogenous leukemia lymphoblast) whole cell lysate at 20 µg

Lane 2:
U-87 MG (human glioblastoma-astrocytoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 4:
HEK-293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/20000 dilution

Predicted band size: 66 kDa

Observed band size: 22 kDa, 70 kDa

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