abcam

Product datasheet

Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free ab280205

敲除验证 重组 RabMAb

17 图像

概述

产品名称	Anti-HDAC1抗体[EPR23847-170] - BSA and Azide free
描述	兔单克隆抗体[EPR23847-170] to HDAC1 - BSA and Azide free
宿主	Rabbit
经测试应用	**适用于:** Flow Cyt (Intra), ICC/IF, ChIP, WB, IHC-P, ChIC/CUT&RUN-seq, IP
种属反应性	**与反应:** Mouse, Rat, Human
免疫原	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
阳性对照	WB: Human heart and kidney tissue lysates; Wild-type HAP1, Jurkat, K-562, HeLa, C6, RAW264.7, PC-12 and NIH/3T3 whole cell lysates; His-tagged human HDAC1 recombinant protein. IHC-P: Human tonsil and liver tissue; Mouse liver tissue; Rat liver tissue. ICC/IF: HeLa and NIH/3T3 cells. Flow Cyt (intra): HeLa cells and NIH/3T3 cells. IP: HeLa and NIH/3T3 whole cell lysates. ChIP: Chromatin prepared from K-562 cells. ChIC/CUT&RUN-Seq: K-562 cells.
常规说明	ab280205 is the carrier-free version of **ab280198**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. 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. 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. 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 production For more information **see here**.

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

性能

形式	Liquid
存放说明	Shipped at 4°C. Store at +4°C.
存储溶液	Constituent: 100% PBS
无载体	**是**
纯度	Protein A purified
克隆	单克隆
克隆编号	EPR23847-170
同种型	IgG

应用

The Abpromise guarantee **Abpromise™承诺保证使用ab280205于以下的经测试应用**

"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

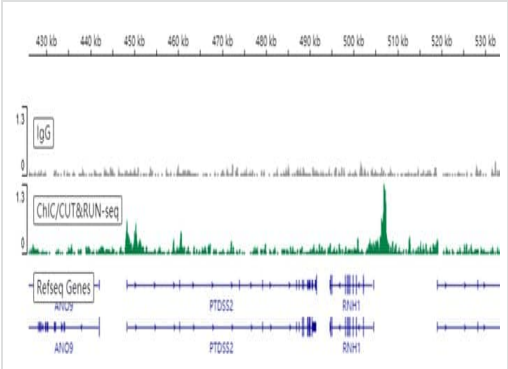
应用	Ab评论	说明
Flow Cyt (Intra)		Use at an assay dependent concentration.
ICC/IF		Use at an assay dependent concentration.
ChIP		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration. Detects a band of approximately 62 kDa (predicted molecular weight: 55 kDa).
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
ChIC/CUT&RUN-seq		Use at an assay dependent concentration.
IP		Use at an assay dependent concentration.

靶标

功能 Responsible for the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events. Histone deacetylases act via the formation of large multiprotein complexes. Deacetylates SP proteins, SP1 and SP3, and regulates their function. Component of the BRG1-RB1-HDAC1 complex, which negatively regulates the CREST-mediated transcription in resting neurons. Upon

	calcium stimulation, HDAC1 is released from the complex and CREBBP is recruited, which facilitates transcriptional activation. Deacetylates TSHZ3 and regulates its transcriptional repressor activity. Deacetylates 'Lys-310' in RELA and thereby inhibits the transcriptional activity of NF-kappa-B.
组织特异性	Ubiquitous, with higher levels in heart, pancreas and testis, and lower levels in kidney and brain.
序列相似性	Belongs to the histone deacetylase family. HD type 1 subfamily.
翻译后修饰	Sumoylated on Lys-444 and Lys-476; which promotes enzymatic activity. Desumoylated by SENP1. Phosphorylation on Ser-421 and Ser-423 promotes enzymatic activity and interactions with NuRD and SIN3 complexes. Ubiquitinated by CHFR, leading to its degradation by the proteasome.
细胞定位	Nucleus.

图片



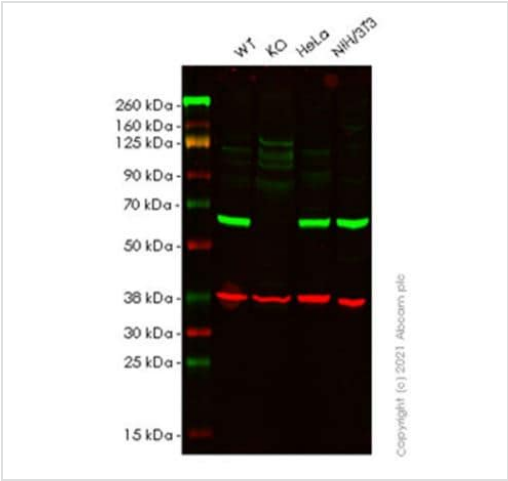
ChIC/CUT&RUN sequencing - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

ChIC/CUT&RUN was performed using a pAG-MNAse at a final concentration of 700 ng/mL, 2 x 10^5 K-562 (Human chronic myelogenous leukemia lymphoblast) cells and 5 µg of **ab280198** [EPR23847-170]. The resulting DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 10 million reads. The negative IgG control **ab172730** is also shown.

Additional screenshots of mapped reads can be downloaded **here**.

The University of Geneva owns patents relevant to ChIC (Chromatin Immuno-Cleavage) methods.

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.



Western blot - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

All lanes : Anti-HDAC1 antibody [EPR23847-170] (**ab280198**) at 1/1000 dilution

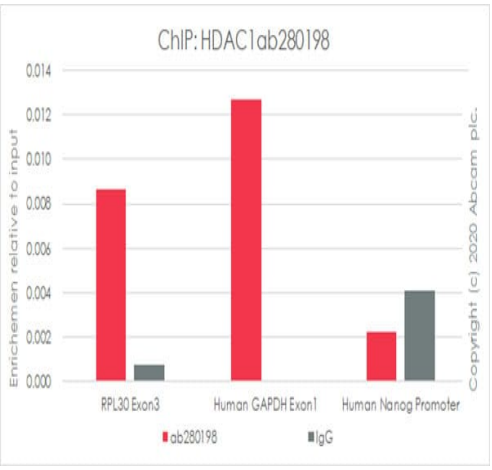
Lane 1 : Wild-type HAP1 cell lysate at 20 µg
Lane 2 : HDAC1 knockout HAP1 cell lysate at 40 µg
Lane 3 : HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg
Lane 4 : NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (IRDye® 800CW) (**ab216773**) and Goat Anti-Mouse IgG H&L (IRDye® 680RD) (**ab216776**) at 1/10000 dilution

Predicted band size: 55 kDa

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

ab280198 Anti-HDAC1 antibody [EPR23847-170] was shown to specifically react with HDAC1 in wild-type HAP1 cells. Loss of signal was observed when knockout cell line (knockout cell lysate) was used. Wild-type and HDAC1 knockout samples were subjected to SDS-PAGE. **ab280198** and Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) were incubated at room temperature for 2. 5 hours at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (**ab216776**) secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

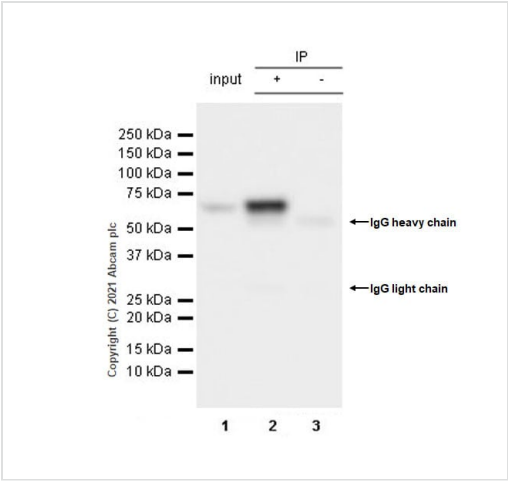


ChIP - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

Chromatin was prepared from K-562 cells according to the Abcam Dual-X-ChIP protocol*. Cells were fixed with 1.5 mM EGS for 30mins and then formaldehyde for 10min.
The ChIP was performed with 25 µg of chromatin, 5 µg of **ab280198** (red), or 5 µg of rabbit normal IgG **ab172730** (gray) and 25 µl of Protein A/G Dynabeads. The immunoprecipitated DNA was quantified by real time PCR (Sybr green approach).

*http://www.abcam.com/resources?keywords=X%20ChIP%20protocol



Immunoprecipitation - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

HDAC1 was immunoprecipitated from 0.35 mg NIH/3T3 (mouse embryonic fibroblast) whole cell lysate with **ab280198** at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using **ab280198** at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(**ab131366**) was used at 1/5000 dilution.

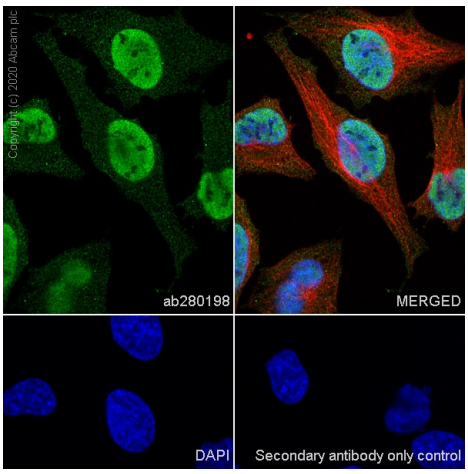
Lane 1: NIH/3T3 (mouse embryonic fibroblast) whole cell lysate 10 ug

Lane 2: **ab280198** IP in NIH/3T3 whole cell lysate 10 ug

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of **ab280198** in NIH/3T3 whole cell lysate

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

Exposure time: 1 second

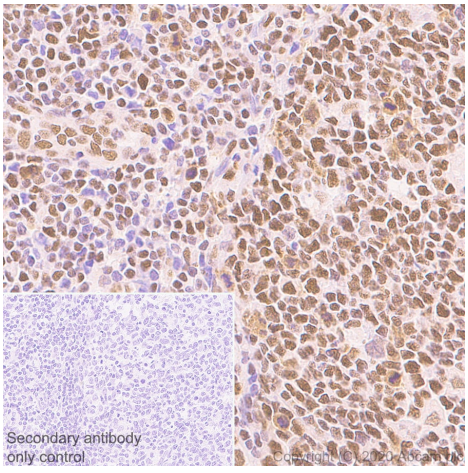


Immunocytochemistry/ Immunofluorescence - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa cells labelling HDAC1 with **ab280198** at 1/5000 dilution, followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing nuclear and weakly cytoplasmic staining in HeLa cell line. **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.



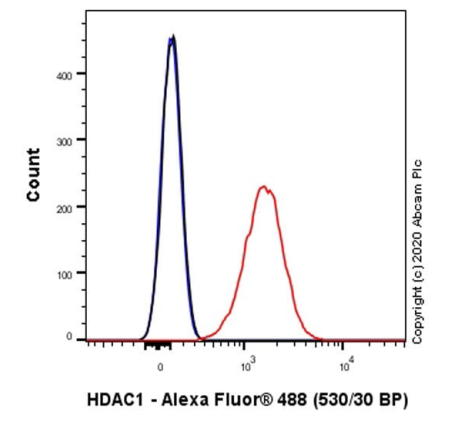
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling HDAC1 with **ab280198** at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Nuclear staining on human tonsil (PMID:23109994). The section was incubated with **ab280198** 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 Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Flow Cytometry (Intracellular) - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

This data was developed using **ab280198**, 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) cells labelling HDAC1 with **ab280198** at 1/500 dilution (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.

Western blot - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

All lanes : Anti-HDAC1 antibody [EPR23847-170] (**ab280198**) at 1/1000 dilution

Lane 1 : Human heart tissue lysate
Lane 2 : Human kidney tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : VeriBlot for IP Detection Reagent (HRP) (**ab131366**) at 1/1000 dilution (VeriBlot for IP secondary antibody(HRP))

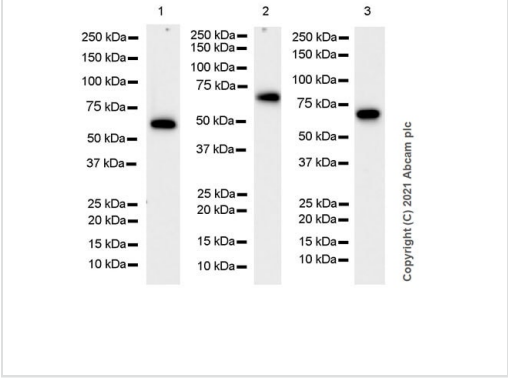
Predicted band size: 55 kDa
Observed band size: 62 kDa

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

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

The observed MW is consistent with what has been described in the literature (PMID:24551070).

Exposure time: 15 seconds



Western blot - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

All lanes : Anti-HDAC1 antibody [EPR23847-170] (**ab280198**) at 1/5000 dilution

Lane 1 : Jurkat (human T cell leukemia T lymphocyte) whole cell lysate
Lane 2 : K-562 (human chronic myelogenous leukemia lymphoblast) whole cell lysate
Lane 3 : HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution (Goat Anti-Rabbit IgG, (H+L), Peroxidase

conjugated)

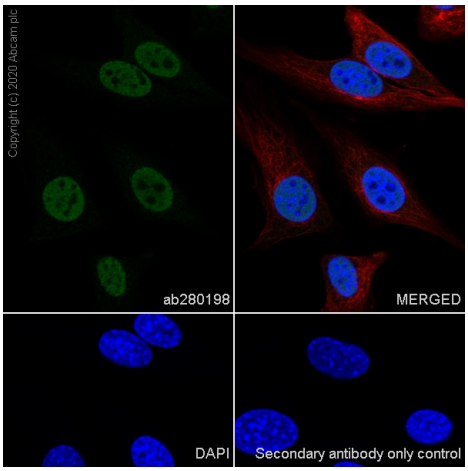
Predicted band size: 55 kDa
Observed band size: 62 kDa

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

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

The observed MW is consistent with what has been described in the literature (PMID: 24551070).

Exposure time: 37 seconds

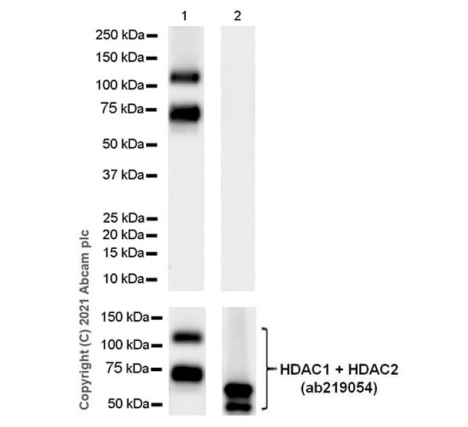


Immunocytochemistry/ Immunofluorescence - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 cells labelling HDAC1 with **ab280198** at 1/5000 dilution, followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing nuclear and weakly cytoplasmic staining in NIH/3T3 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.



Western blot - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

All lanes : Anti-HDAC1 antibody [EPR23847-170] (**ab280198**) at 1/1000 dilution

Lane 1 : His-tagged human HDAC1 recombinant protein (aa1-482)
Lane 2 : His-tagged human HDAC2 recombinant protein (aa1-488)

Lysates/proteins at 0.01 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution (Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated)

Predicted band size: 55 kDa

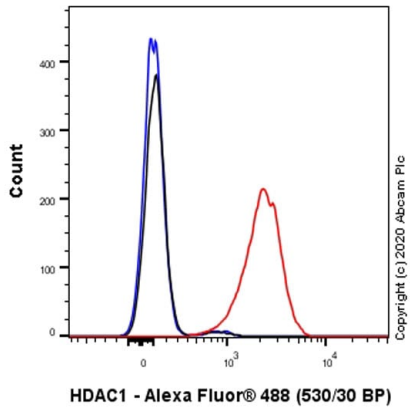
Observed band size: 66 kDa

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

This antibody has no cross-reaction with human HDAC2.

These rec proteins were made in house. These two recombinant proteins were expressed from E.coli expression systems.

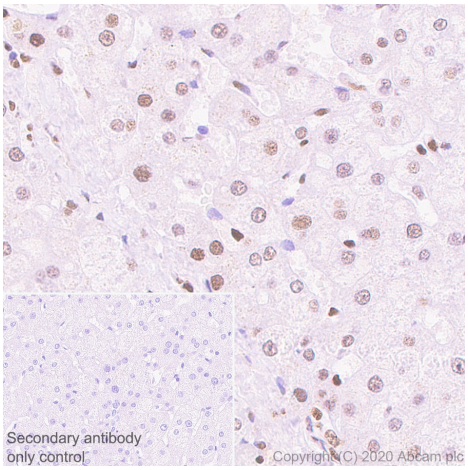
Exposure time: 10 seconds



Flow Cytometry (Intracellular) - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized NIH/3T3 (Mouse embryonic fibroblast) cells labelling HDAC1 with **ab280198** at 1/500 dilution (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.



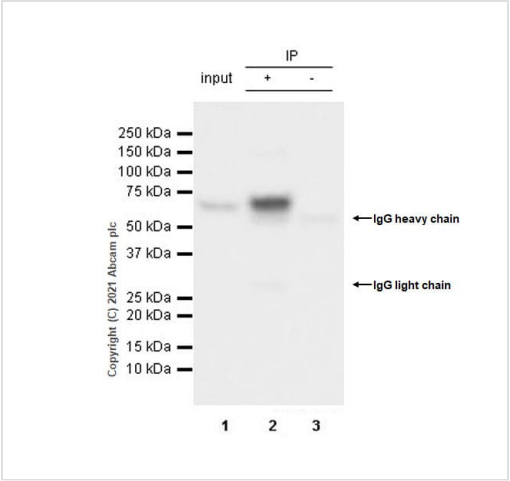
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling HDAC1 with **ab280198** at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Nuclear staining on human liver (PMID:18264140). The section was incubated with **ab280198** 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 Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunoprecipitation - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

HDAC1 was immunoprecipitated from 0.35 mg HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate with **ab280198** at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using **ab280198** at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(**ab131366**) was used at 1/5000 dilution.

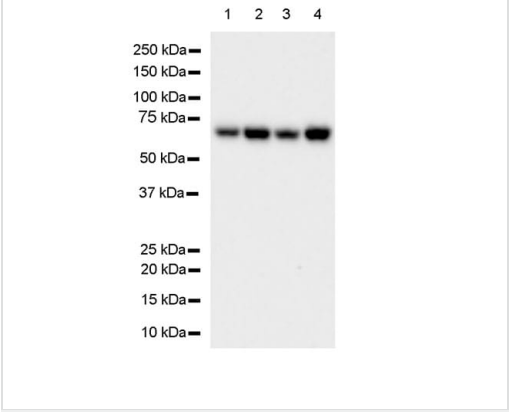
Lane 1: HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate 10 ug

Lane 2: **ab280198** IP in HeLa whole cell lysate 10 ug

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of **ab280198** in HeLa whole cell lysate

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

Exposure time: 1 second



Western blot - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

Lane 1 : Anti-HDAC1 antibody [EPR23847-170] (**ab280198**) at 1/1000 dilution
Lanes 2-4 : Anti-HDAC1 antibody [EPR23847-170] (**ab280198**) at 1/5000 dilution

Lane 1 : C6 (rat glial tumor glial cell) whole cell lysate
Lane 2 : RAW264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) whole cell lysate
Lane 3 : PC-12 (rat adrenal gland pheochromocytoma) whole cell lysate
Lane 4 : NIH/3T3 (mouse embryonic fibroblast) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution (Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated)

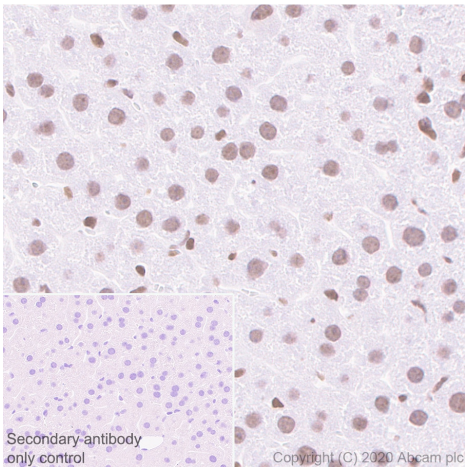
Predicted band size: 55 kDa
Observed band size: 62 kDa

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

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

The observed MW is consistent with what has been described in the literature (PMID:24551070).

Exposure time: 37 seconds



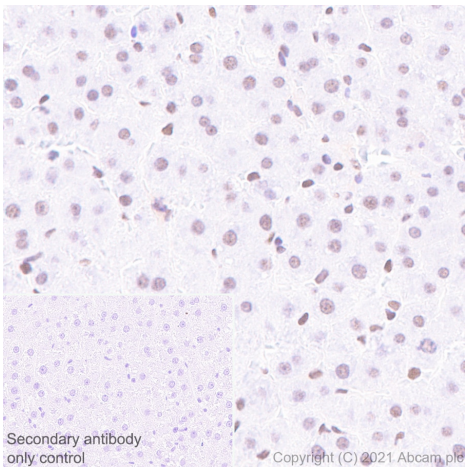
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling HDAC1 with **ab280198** at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Nuclear staining on mouse liver. The section was incubated with **ab280198** 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 Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody [EPR23847-170] - BSA and Azide free (ab280205)

This data was developed using **ab280198**, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded Rat liver tissue labeling HDAC1 with **ab280198** at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Nuclear staining on rat liver. The section was incubated with **ab280198** 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 Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

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