

Product datasheet

Anti-HDAC1 antibody [EPR5517(2)] - BSA and Azide free ab248968

KO VALIDATED Recombinant RabMAb[®]

11 Images

Overview

Product name	Anti-HDAC1 antibody [EPR5517(2)] - BSA and Azide free
Description	Rabbit monoclonal [EPR5517(2)] to HDAC1 - BSA and Azide free
Host species	Rabbit
Tested applications	Suitable for: IHC-P, IP, WB Unsuitable for: Flow Cyt
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide within Human HDAC1 aa 1-100 (N terminal). The exact sequence is proprietary.
Positive control	IP: Jurkat whole cell lysate.
General notes	Ab248968 is the carrier-free version of ab150399 . This format is designed for use in antibody labeling, including fluorochromes, metal isotopes, oligonucleotides, enzymes.

Our [carrier-free formats](#) are supplied in a buffer free of BSA, sodium azide and glycerol for higher conjugation efficiency.

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.

ab248968 is compatible with the Maxpar[®] Antibody Labeling Kit from Fluidigm.

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](#).

Reproducibility is key to advancing scientific discovery and accelerating scientists' next

breakthrough.

Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.

We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.

In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.

We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Affinity purified
Clonality	Monoclonal
Clone number	EPR5517(2)
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab248968** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
IP		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration. Predicted molecular weight: 55 kDa.

Application notes	Is unsuitable for Flow Cyt.
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Target

Function

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.

Tissue specificity

Ubiquitous, with higher levels in heart, pancreas and testis, and lower levels in kidney and brain.

Sequence similarities

Belongs to the histone deacetylase family. HD type 1 subfamily.

Post-translational modifications

Sumoylated on Lys-444 and Lys-476; which promotes enzymatic activity. Desumoylated by SENP1.

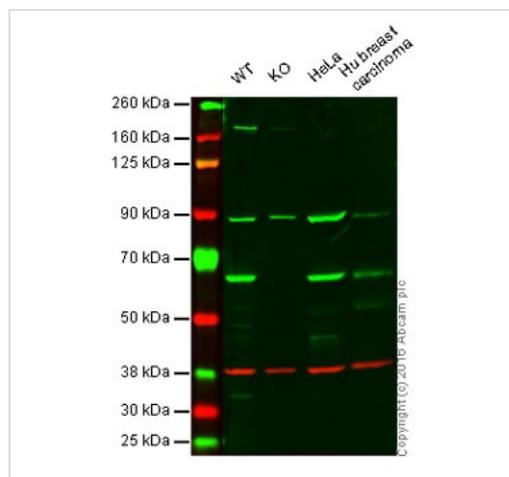
Phosphorylation on Ser-421 and Ser-423 promotes enzymatic activity and interactions with NuRD and SIN3 complexes.

Ubiquitinated by CHFR, leading to its degradation by the proteasome.

Cellular localization

Nucleus.

Images



Western blot - Anti-HDAC1 antibody [EPR5517(2)] - BSA and Azide free (ab248968)

This data was developed using [ab150399](#), the same antibody clone in a different buffer formulation.

Lane 1 Wild-type HAP1 cell lysate (20 µg)

Lane 2 HDAC1 knockout HAP1 cell lysate (20 µg)

Lane 3 HeLa cell lysate (20 µg)

Lane 4 Human breast carcinoma lysate (20 µg)

Lanes 1 - 4 Merged signal (red and green). Green - [ab150399](#) observed at 65 kDa. Red - loading control, [ab8245](#) observed at 37 kDa.

[ab150399](#) was shown to recognize HDAC1 when HDAC1 knockout samples were used, along with additional cross-reactive bands. Wild-type and HDAC1 knockout samples were subjected to SDS-PAGE. [ab150399](#) and [ab8245](#) (loading control to GAPDH) were diluted 1/1000 and 1/10000 respectively and incubated overnight at 4°C. 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 1/10000 dilution for 1 h at room temperature before imaging.



Immunoprecipitation - Anti-HDAC1 antibody
[EPR5517(2)] - BSA and Azide free (ab248968)

This data was developed using [ab150399](#), the same antibody clone in a different buffer formulation.

Purified [ab150399](#) at 1/30 dilution (2µg) immunoprecipitating HDAC1 in Jurkat whole cell lysate.

Lane 1 (input): Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate 10µg

Lane 2 (+): [ab150399](#) + Jurkat whole cell lysate.

Lane 3 (-): Rabbit monoclonal IgG ([ab172730](#)) instead of [ab150399](#) in Jurkat whole cell lysate.

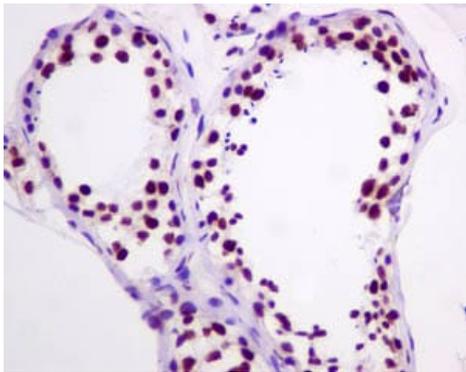
VeriBlot for IP Detection Reagent (HRP) ([ab131366](#)) (1/1000 dilution) was used for Western blotting.

Blocking Buffer and concentration: 5% NFDm/TBST.

Diluting buffer and concentration: 5% NFDm/TBST.

Observed band size: 62 kDa

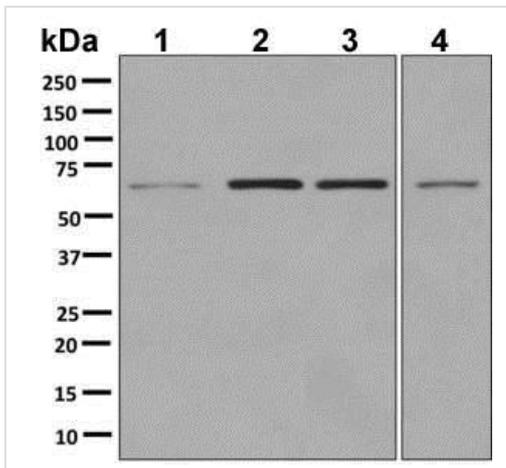
Faint band above 62kDa could be Sumoylated HDAC1. (PMID: 28186506)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody
[EPR5517(2)] - BSA and Azide free (ab248968)

This data was developed using [ab150399](#), the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded Human testis tissue labelling HDAC1 with [ab150399](#) at 1/50 dilution. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-HDAC1 antibody [EPR5517(2)] - BSA and Azide free (ab248968)

All lanes : Anti-HDAC1 antibody [EPR5517(2)] ([ab150399](#)) at 1/1000 dilution

Lane 1 : K562 cell lysate

Lane 2 : Jurkat cell lysate

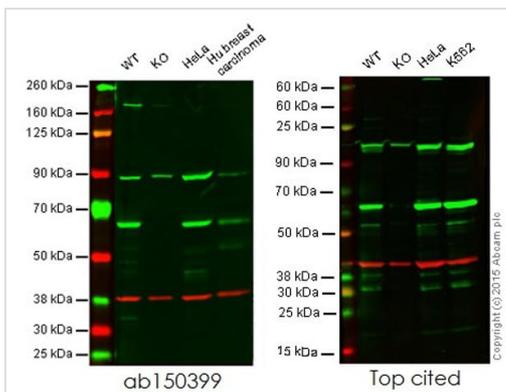
Lane 3 : MCF7 cell lysate

Lane 4 : HeLa cell lysate

Lysates/proteins at 10 µg per lane.

Predicted band size: 55 kDa

This data was developed using [ab150399](#), the same antibody clone in a different buffer formulation.



Western blot - Anti-HDAC1 antibody [EPR5517(2)] - BSA and Azide free (ab248968)

This data was developed using [ab150399](#), the same antibody clone in a different buffer formulation.

Lane 1: Wild-type HAP1 cell lysate (20 Åµg)

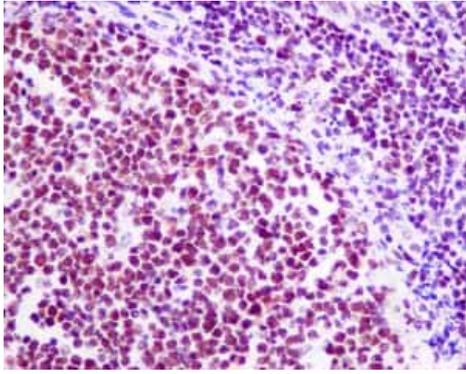
Lane 2: HDAC1 knockout HAP1 cell lysate (20 Åµg)

Lane 3: HeLa cell lysate (20 Åµg)

Lane 4: Human breast carcinoma lysate (20 Åµg) or K562 lysate (20 Åµg)

Lanes 1 - 4: Merged signal (red and green). Green - [ab150399](#) observed at 65 kDa. Red - loading control, [ab8245](#), observed at 37 kDa.

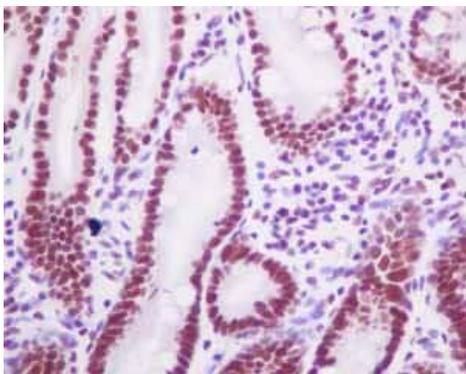
This western blot image is a comparison between [ab150399](#) and a competitor's top cited rabbit polyclonal antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody [EPR5517(2)] - BSA and Azide free (ab248968)

This data was developed using [ab150399](#), the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin embedded normal Human tonsil tissue using [ab150399](#) showing +ve staining.

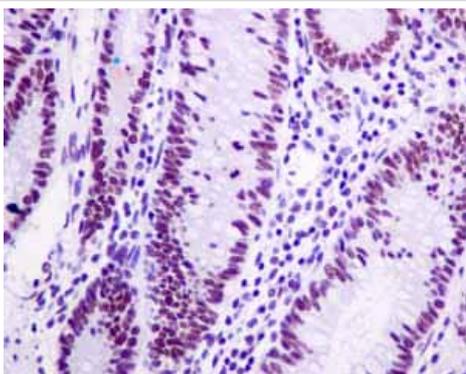
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody [EPR5517(2)] - BSA and Azide free (ab248968)

This data was developed using [ab150399](#), the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin embedded normal Human stomach tissue using [ab150399](#) showing +ve staining.

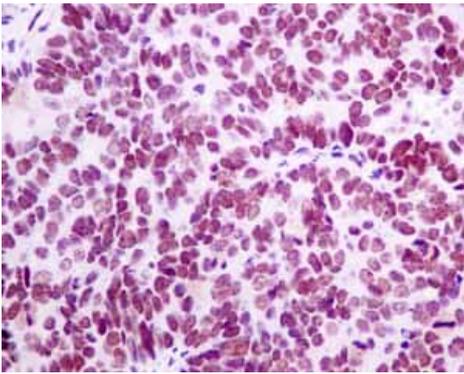
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody [EPR5517(2)] - BSA and Azide free (ab248968)

This data was developed using [ab150399](#), the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin embedded normal Human colon tissue using [ab150399](#) showing +ve staining.

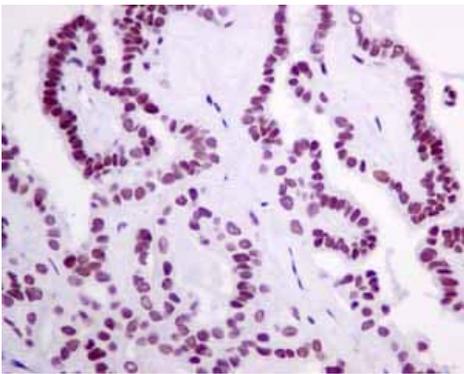
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody [EPR5517(2)] - BSA and Azide free (ab248968)

This data was developed using [ab150399](#), the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin embedded Human Ovarian carcinoma tissue using [ab150399](#) showing +ve staining.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody [EPR5517(2)] - BSA and Azide free (ab248968)

This data was developed using [ab150399](#), the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin embedded Human Thyroid gland carcinoma tissue using [ab150399](#) showing +ve staining.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Why choose a recombinant antibody?

 <p>Research with confidence Consistent and reproducible results</p>	 <p>Long-term and scalable supply Recombinant technology</p>
 <p>Success from the first experiment Confirmed specificity</p>	 <p>Ethical standards compliant Animal-free production</p>

Anti-HDAC1 antibody [EPR5517(2)] - BSA and Azide free (ab248968)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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