abcam

Product datasheet

Anti-HDAC2 antibody [EPR20117] ab219053

KO 評価済 リコンビナント RabMAb

1 References 画像数 22

製品の概要

製品名	Anti-HDAC2 antibody [EPR20117]
製品の詳細	Rabbit monoclonal [EPR20117] to HDAC2
由来種	Rabbit
アプリケーション	**適用あり:** Flow Cyt (Intra), ChIC/CUT&RUN-seq, IHC-P, ICC/IF, IP, WB
種交差性	**交差種:** Mouse, Rat, Human
免疫原	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
ポジティブ・コントロール	WB: His-tagged human HDAC2 recombinant protein (aa339-488);HeLa,SH-SY5Y,HEK-293,PC-12,NIH/3T3 whole cell lysates; Human fetal brain,fetal heart and fetal kidney lysates; Mouse brain and heart lysates; Rat heart,brain and spleen lysates IHC-P: Human testis,tonsil,prostate hyperplasia,prostate cancer,breast cancer and synovial sarcoma tissues; mouse colon tissue and rat spleen tissue ICC/IF: HEK-293 and NIH/3T3 cells Flow Cyt (intra): NIH/3T3 cells IP: HeLa cell lysate ChIC/CUT&RUN-Seq: K-562 cells
特記事項	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**.

製品の特性

製品の状態	Liquid
保存方法	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
バッファー	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol, 0.05% BSA
精製度	Protein A purified

ポリ/モノ	**モノクローナル**
クローン名	EPR20117
アイソタイプ	IgG

アプリケーション

The Abpromise guarantee **Abpromise保証は、** **次のテスト済みアプリケーションにおけるab219053の使用に適用されます**

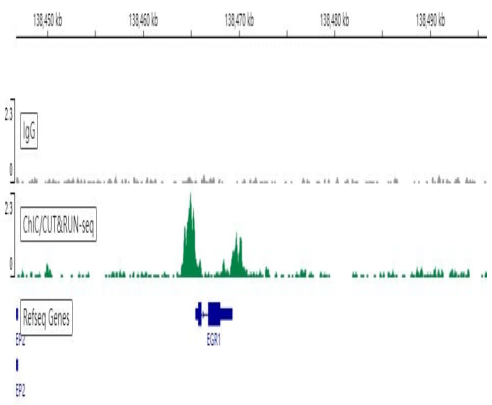
アプリケーションノートには、推奨の開始希釈率がありますが、適切な希釈率につきましてはご検討ください。

アプリケーション	Abreviews	特記事項
Flow Cyt (Intra)		1/500.
ChIC/CUT&RUN-seq		Use at an assay dependent concentration. 5µg
IHC-P		1/4000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
ICC/IF		1/1000.
IP		1/30.
WB		1/1000. Detects a band of approximately 55 kDa (predicted molecular weight: 55 kDa).

ターゲット情報

機能	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. Forms transcriptional repressor complexes by associating with MAD, SIN3, YY1 and N-COR. Interacts in the late S-phase of DNA-replication with DNMT1 in the other transcriptional repressor complex composed of DNMT1, DMAP1, PCNA, CAF1. Deacetylates TSHZ3 and regulates its transcriptional repressor activity.
組織特異性	Widely expressed; lower levels in brain and lung.
配列類似性	Belongs to the histone deacetylase family. HD type 1 subfamily.
翻訳後修飾	S-nitrosylated by GAPDH. In neurons, S-Nitrosylation at Cys-262 and Cys-274 does not affect the enzyme activity but abolishes chromatin-binding, leading to increases acetylation of histones and activate genes that are associated with neuronal development. In embryonic cortical neurons, S-Nitrosylation regulates dendritic growth and branching.
細胞内局在	Nucleus.

画像

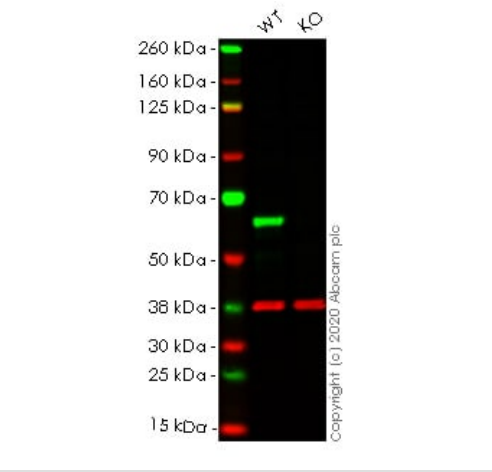


ChIC/CUT&RUN sequencing - Anti-HDAC2 antibody [EPR20117] (ab219053)

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 5µg of ab219053 [EPR20117]. 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.



Western blot - Anti-HDAC2 antibody [EPR20117] (ab219053)

All lanes : Anti-HDAC2 antibody [EPR20117] (ab219053) at 1/1000 dilution

Lane 1 : Wild-type HEK-293T cell lysate
Lane 2 : HDAC2 knockout HEK-293T cell lysate

Lysates/proteins at 20 µg per lane.

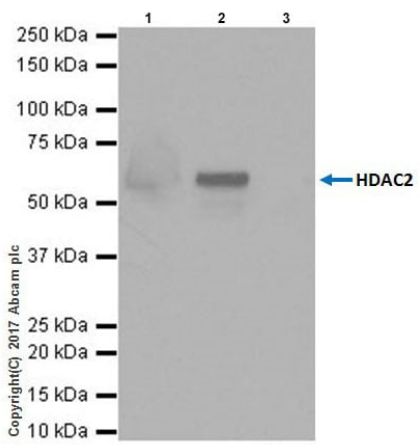
Performed under reducing conditions.

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

Lanes 1- 2: Merged signal (red and green). Green - ab219053 observed at 55 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) observed at 37 kDa.

ab219053 was shown to react with HDAC2 in wild-type HEK-293T cells in western blot. Loss of signal was observed when knockout cell line **ab266589** (knockout cell lysate **ab256938**) was used. Wild-type HEK-293T and HDAC2 knockout HEK-293T cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab219053 and Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) overnight at 4°C at a 1 in 1000 dilution and a 1 in 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 in 20000 dilution for 1 hour at room temperature before imaging.



Immunoprecipitation - Anti-HDAC2 antibody [EPR20117] (ab219053)

HDAC2 was immunoprecipitated from 0.35 mg of HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate with ab219053 at 1/30 dilution.

Western blot was performed from the immunoprecipitate using ab219053 at 1/1000 dilution.

VeriBlot for IP Detection Reagent (HRP) (**ab131366**), was used for detection at 1/10000 dilution.

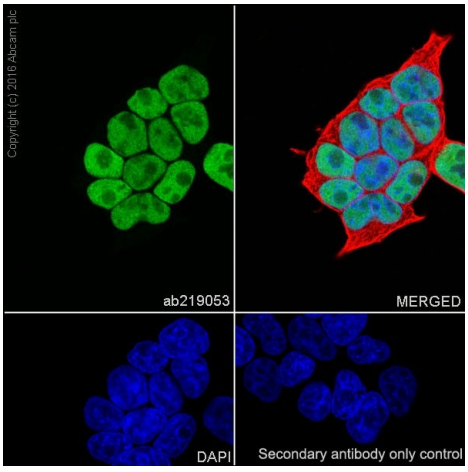
Lane 1: HeLa whole cell lysate 10 µg (Input).

Lane 2: ab219053 IP in HeLa whole cell lysate.

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab219053 in HeLa whole cell lysate.

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

Exposure time: 1 second.



Immunocytochemistry/ Immunofluorescence - Anti-HDAC2 antibody [EPR20117] (ab219053)

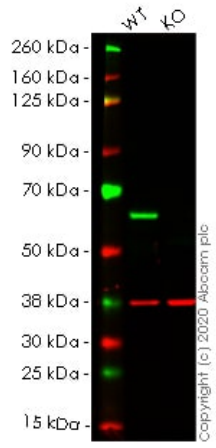
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HEK-293 (Human epithelial cell line from embryonic kidney) cells labeling HDAC2 with ab219053 at 1/1000 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (**ab150077**) secondary antibody at 1/1000 dilution (green).

Confocal image showing nuclear staining on HEK-293 cell line.

The nuclear counterstain is DAPI (blue).

Tubulin is detected with **ab195889** (Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594)) at 1/200 dilution (red).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat anti-rabbit IgG (Alexa Fluor® 488) (**ab150077**) at 1/1000 dilution.



Western blot - Anti-HDAC2 antibody [EPR20117] (ab219053)

All lanes : Anti-HDAC2 antibody [EPR20117] (ab219053) at 1/1000 dilution

Lane 1 : Wild-type HEK-293T cell lysate
Lane 2 : HDAC2 knockout HEK-293T cell lysate

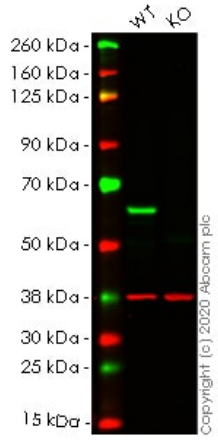
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 55 kDa
Observed band size: 60 kDa

Lanes 1-2: Merged signal (red and green). Green - ab219053 observed at 60 kDa. Red - loading control **ab8245** observed at 37 kDa.

ab219053 Anti-HDAC2 antibody [EPR20117] was shown to specifically react with HDAC2 in wild-type HEK-293T cells. Loss of signal was observed when knockout cell line **ab266590** (knockout cell lysate **ab256939**) was used. Wild-type and HDAC2 knockout samples were subjected to SDS-PAGE. ab219053 and Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) were incubated overnight at 4°C at 1 in 1000 and 1 in 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 in 20000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-HDAC2 antibody [EPR20117] (ab219053)

All lanes : Anti-HDAC2 antibody [EPR20117] (ab219053) at 1/1000 dilution

Lane 1 : Wild-type HEK-293T cell lysate
Lane 2 : HDAC2 knockout HEK-293T cell lysate

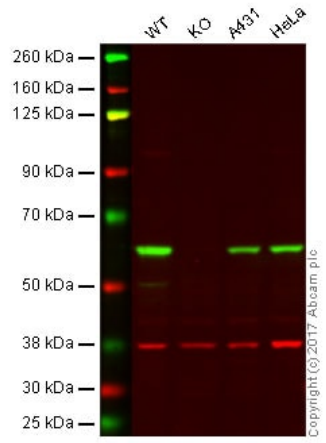
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 55 kDa
Observed band size: 60 kDa

Lanes 1-2: Merged signal (red and green). Green - ab219053 observed at 60 kDa. Red - loading control **ab8245** observed at 37 kDa.

ab219053 Anti-HDAC2 antibody [EPR20117] was shown to specifically react with HDAC2 in wild-type HEK-293T cells. Loss of signal was observed when knockout cell line **ab266588** (knockout cell lysate **ab256937**) was used. Wild-type and HDAC2 knockout samples were subjected to SDS-PAGE. ab219053 and Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) were incubated overnight at 4°C at 1 in 1000 and 1 in 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 in 20000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-HDAC2 antibody [EPR20117] (ab219053)

All lanes : Anti-HDAC2 antibody [EPR20117] (ab219053) at 1/1000 dilution

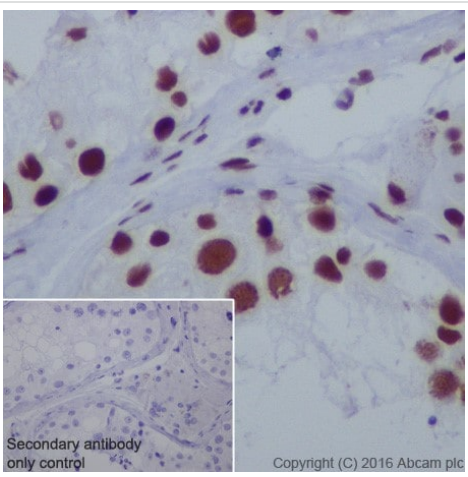
Lane 1 : Wild-type HAP1 whole cell lysate
Lane 2 : HDAC2 knockout HAP1 whole cell lysate
Lane 3 : A431 whole cell lysate
Lane 4 : HeLa whole cell lysate

Lysates/proteins at 20 µg per lane.

Predicted band size: 55 kDa

Lanes 1 - 4: Merged signal (red and green). Green - ab219053 observed at 55 kDa. Red - loading control, **ab9484**, observed at 37 kDa.

ab219053 was shown to specifically react with HDAC2 in wild type cells as signal was lost in HDAC2 knockout cells. Wild-type and HDAC2 knockout samples were subjected to SDS-PAGE. Ab219053 and **ab9484** (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed **ab216773** and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed **ab216776** secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC2 antibody [EPR20117] (ab219053)

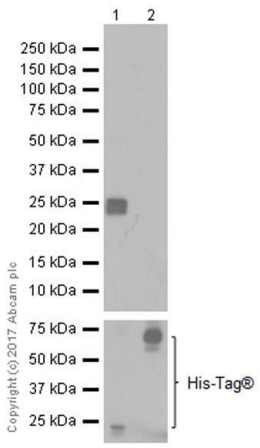
Immunohistochemical analysis of paraffin-embedded human testis tissue labeling HDAC2 with ab219053 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Nuclear staining on human testis is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-HDAC2 antibody [EPR20117] (ab219053)

All lanes : Anti-HDAC2 antibody [EPR20117] (ab219053) at 1/1000 dilution

Lane 1 : His-tagged human HDAC2 recombinant protein (aa339-488)
Lane 2 : His-tagged human HDAC1 recombinant protein (aa1-482)

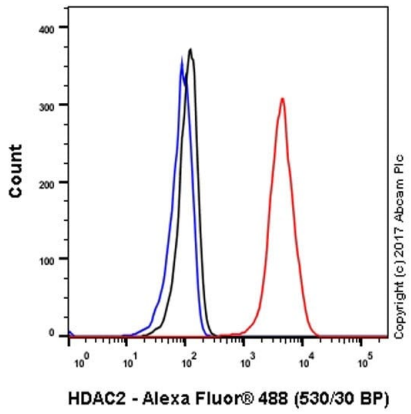
Lysates/proteins at 0.01 µg per lane.

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

Predicted band size: 55 kDa
Observed band size: 22 kDa

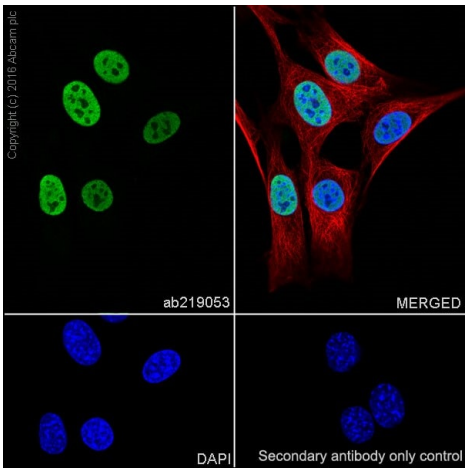
Exposure time: 1 second

Blocking/Dilution buffer: 5% NFDM/TBST.



Flow Cytometry (Intracellular) - Anti-HDAC2 antibody [EPR20117] (ab219053)

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed NIH/3T3 (Mouse embryonic fibroblast cell line) cells labeling HDAC2 with ab219053 at 1/500 dilution (red) compared with a rabbit monoclonal IgG isotype control (**ab172730**; black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-HDAC2 antibody [EPR20117] (ab219053)

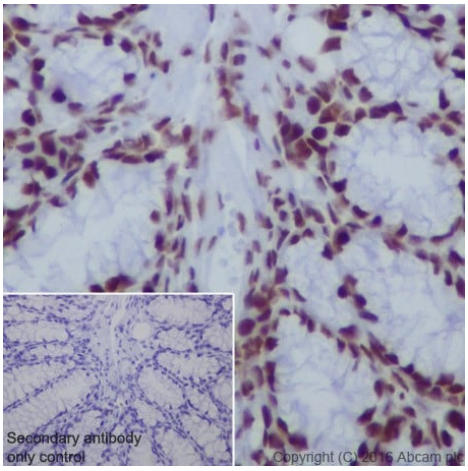
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized NIH/3T3 (Mouse embryonic fibroblast cell line) cells labeling HDAC2 with ab219053 at 1/1000 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (**ab150077**) secondary antibody at 1/1000 dilution (green).

Confocal image showing nuclear staining on NIH/3T3 cell line.

The nuclear counterstain is DAPI (blue).

Tubulin is detected with **ab195889** (Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594)) at 1/200 dilution (red).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat anti-rabbit IgG (Alexa Fluor® 488) (**ab150077**) at 1/1000 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC2 antibody [EPR20117] (ab219053)

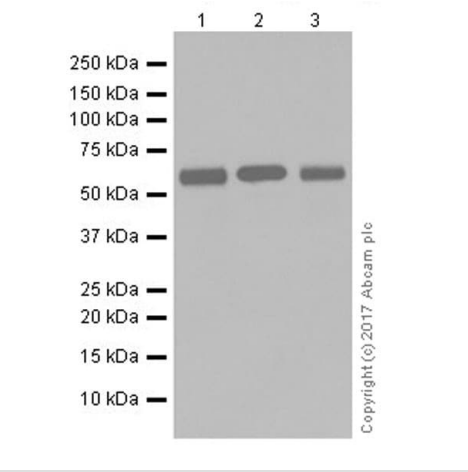
Immunohistochemical analysis of paraffin-embedded mouse colon tissue labeling HDAC2 with ab219053 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Nuclear staining on mouse colon is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-HDAC2 antibody [EPR20117] (ab219053)

All lanes : Anti-HDAC2 antibody [EPR20117] (ab219053) at 1/5000 dilution

Lane 1 : HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate
Lane 2 : SH-SY5Y (Human neuroblastoma cell line from bone marrow) whole cell lysate
Lane 3 : HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate

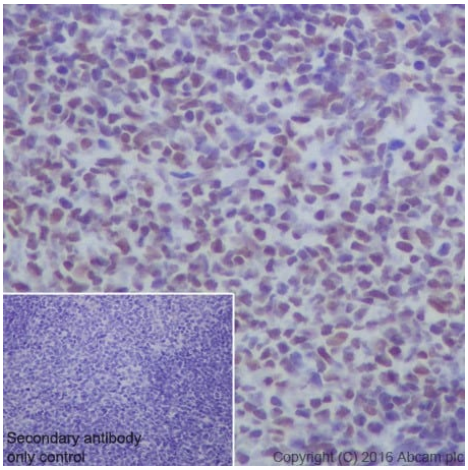
Lysates/proteins at 20 µg per lane.

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

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

Exposure time: 10 seconds

Blocking/Dilution buffer: 5% NFDM/TBST.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC2 antibody [EPR20117] (ab219053)

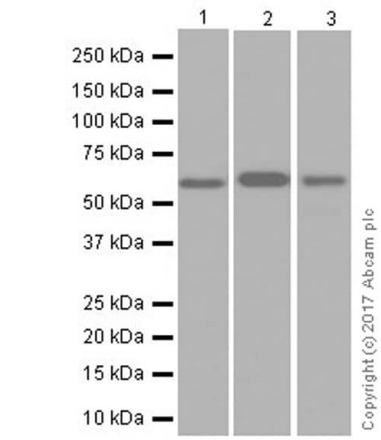
Immunohistochemical analysis of paraffin-embedded rat spleen tissue labeling HDAC2 with ab219053 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Nuclear staining on rat spleen is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-HDAC2 antibody [EPR20117] (ab219053)

All lanes : Anti-HDAC2 antibody [EPR20117] (ab219053) at 1/5000 dilution

Lane 1 : Human fetal brain lysate
Lane 2 : Human fetal heart lysate
Lane 3 : Human fetal kidney lysate

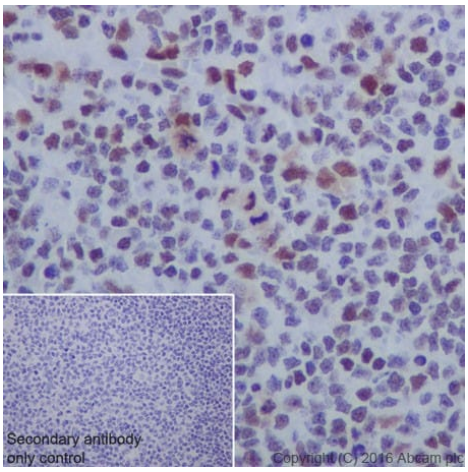
Lysates/proteins at 10 µg per lane.

Secondary
All lanes : VeriBlot for IP Detection Reagent (HRP) (**ab131366**) at 1/4000 dilution

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

Blocking/Dilution buffer: 5% NFDM/TBST.

Exposure time: Lane 1: 3 minutes; Lane 2: 15 seconds; Lane 3: 2 seconds.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC2 antibody [EPR20117] (ab219053)

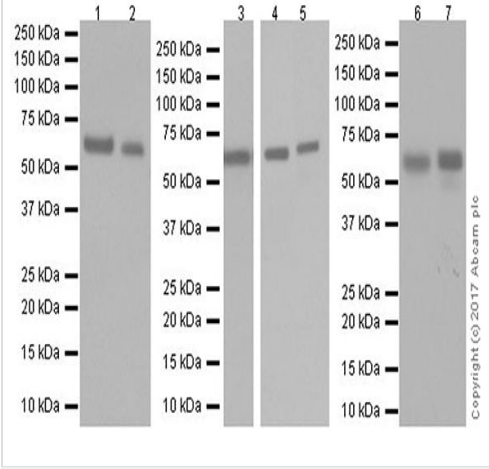
Immunohistochemical analysis of paraffin-embedded human tonsil tissue labeling HDAC2 with ab219053 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Nuclear staining on lymphocytes of human tonsil is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-HDAC2 antibody [EPR20117] (ab219053)

Lanes 1-5 : Anti-HDAC2 antibody [EPR20117] (ab219053) at 1/1000 dilution
Lanes 6-7 : Anti-HDAC2 antibody [EPR20117] (ab219053) at 1/5000 dilution

Lane 1 : Mouse brain lysate
Lane 2 : Mouse heart lysate
Lane 3 : Rat heart lysate
Lane 4 : Rat brain lysate
Lane 5 : Rat spleen lysate
Lane 6 : PC-12 (Rat adrenal gland pheochromocytoma cell line) whole cell lysate
Lane 7 : NIH/3T3 (Mouse embryonic fibroblast cell line) whole cell lysate

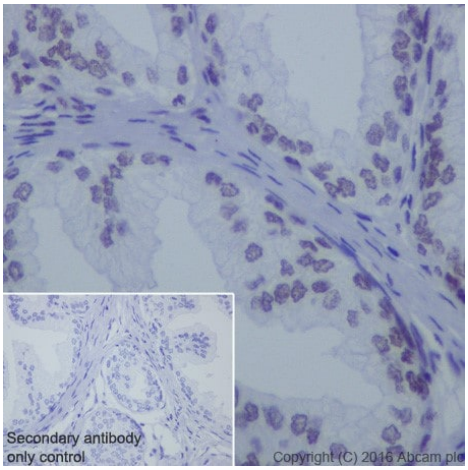
Lysates/proteins at 10 µg per lane.

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

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

Blocking/Dilution buffer: 5% NFDM/TBST.

Exposure time: Lane 1/2: 15 seconds; Lane 3: 30 seconds; Lane 4/5: 3 seconds; Lane 6/7: 1 second.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC2 antibody [EPR20117] (ab219053)

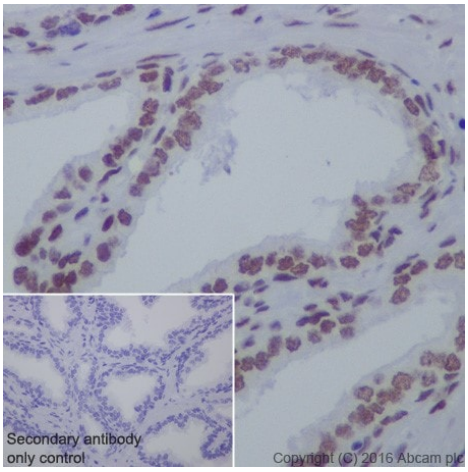
Immunohistochemical analysis of paraffin-embedded human prostate hyperplasia tissue labeling HDAC2 with ab219053 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Nuclear staining on luminal epithelial cells of human prostate hyperplasia; negative staining on basal cells.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC2 antibody [EPR20117] (ab219053)

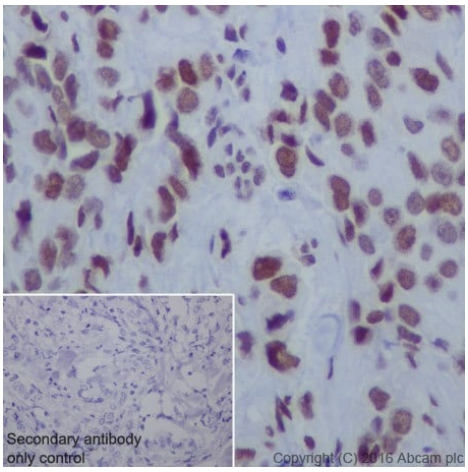
Immunohistochemical analysis of paraffin-embedded human prostate cancer tissue labeling HDAC2 with ab219053 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Nuclear Nuclear staining on tumor cells of prostate cancer; weak or negative staining on basal cells.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC2 antibody [EPR20117] (ab219053)

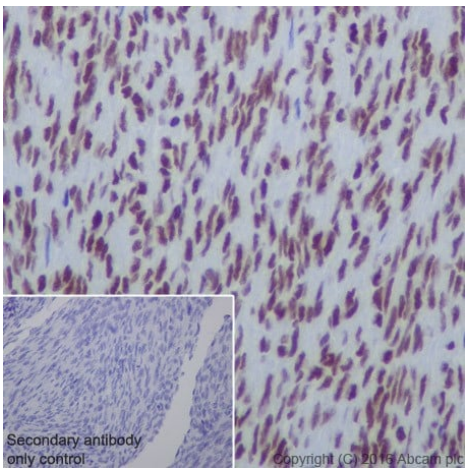
Immunohistochemical analysis of paraffin-embedded human breast cancer tissue labeling HDAC2 with ab219053 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Nuclear staining on tumor cells of human breast cancer is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC2 antibody [EPR20117] (ab219053)

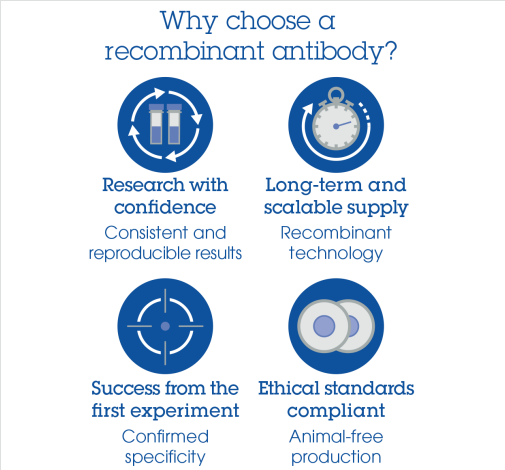
Immunohistochemical analysis of paraffin-embedded human synovial sarcoma tissue labeling HDAC2 with ab219053 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Nuclear staining on human synovial sarcoma is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Anti-HDAC2 antibody [EPR20117] (ab219053)

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

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.co.jp/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors