abcam

Product datasheet

Anti-HDAC2 antibody [Y461] - BSA and Azide free ab213700

KO VALIDATED | Recombinant | RabMAb

15 References 7 Images

Overview

Product name	Anti-HDAC2 antibody [Y461] - BSA and Azide free
Description	Rabbit monoclonal [Y461] to HDAC2 - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** WB, IP, IHC-Fr, ICC/IF, Flow Cyt, IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide within Human HDAC2 aa 450-550 (C terminal). The exact sequence is proprietary.
Positive control	Human breast carcinoma, K562 cells, HeLa cells.
General notes	Ab213700 is the carrier-free version of ab32117. 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. ab213700 is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm. *Maxpar® is a trademark of Fluidigm Canada Inc.* Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMab® patents. This product is a recombinant rabbit monoclonal antibody.

Properties

Form	Liquid
Storage instructions	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.

Storage buffer	pH: 7.20 Constituent: PBS
Purity	Affinity purified
Clonality	Monoclonal
Clone number	Y461
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab213700** in the following tested applications.

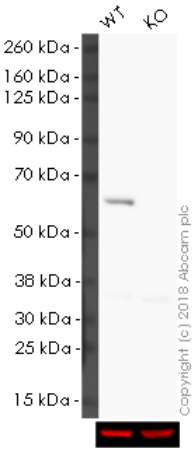
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 55 kDa.
IP		Use at an assay dependent concentration.
IHC-Fr		Use at an assay dependent concentration. May require antigen retrieval if fixing frozen section in paraformaldehyde.
ICC/IF		Use at an assay dependent concentration.
Flow Cyt		Use at an assay dependent concentration. ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
IHC-P		Use at an assay dependent concentration.

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. 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.
Tissue specificity	Widely expressed; lower levels in brain and lung.
Sequence similarities	Belongs to the histone deacetylase family. HD type 1 subfamily.
Post-translational modifications	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.
Cellular localization	Nucleus.

Images



Western blot - Anti-HDAC2 antibody [Y461] - BSA and Azide free (ab213700)

All lanes : Anti-HDAC2 antibody [Y461] (HRP) (ab195851) at 1/10000 dilution

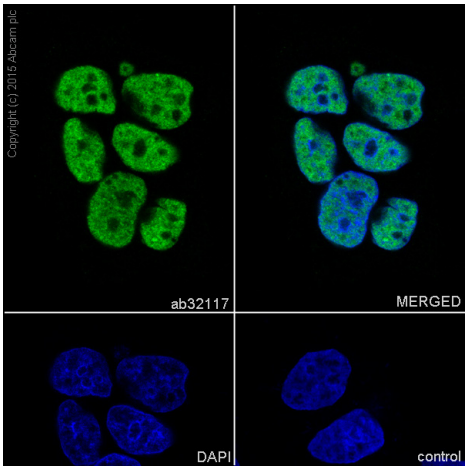
Lane 1 : Wild-type HAP1 whole cell lysate
Lane 2 : HDAC2 knockout HAP1 whole cell lysate

Lysates/proteins at 20 µg per lane.

Predicted band size: 55 kDa

ab195851 was shown to specifically react with HDAC2 in wild-type HAP1 cells as signal was lost in HDAC2 knockout cells. Wild-type and HDAC2 knockout samples were subjected to SDS-PAGE. Ab195851 and ab9484 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/10000 dilution and 1/20000 dilution respectively. The loading control was imaged using the Licor Odyssey CLx prior to blots being developed with ECL technique.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab195851).

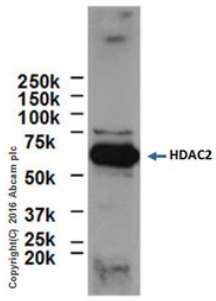


Immunocytochemistry/ Immunofluorescence - Anti-HDAC2 antibody [Y461] - BSA and Azide free (ab213700)

ab32117 staining HDAC2 in MCF-7 (human breast carcinoma) cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Samples were incubated with primary antibody at a dilution of 1/500. A goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at a dilution of 1/1000. DAPI was used as a nuclear counterstain.

Negative control 1: PBS only.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32117).



Immunoprecipitation - Anti-HDAC2 antibody [Y461] - BSA and Azide free (ab213700)

HDAC2 was immunoprecipitated from 1mg of Hela(Human epithelial cell line from cervix adenocarcinoma)whole cell lysate with ab32117at 1/50 dilution.

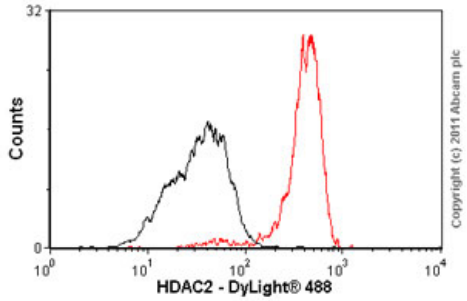
Western blot was performed from the immunoprecipitate using ab32117 at 1/1000 dilution.

Anti-Rabbit IgG (HRP),specific to the non-reduced form of IgG, was used as secondary antibody at 1/1000 dilution.

Lane 1: Hela whole cell lysate

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

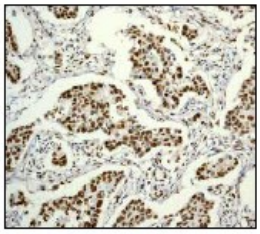
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32117).



Flow Cytometry - Anti-HDAC2 antibody [Y461] - BSA and Azide free (ab213700)

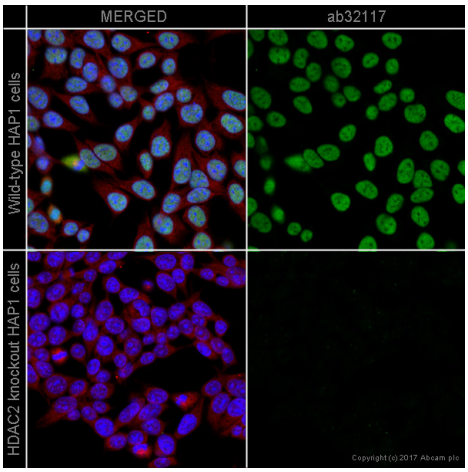
Overlay histogram showing HeLa cells stained with ab32117 (red line). The cells were fixed with methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab32117, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit monoclonal IgG (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a decreased signal in HeLa cells fixed with 4% paraformaldehyde (10 min)/permeabilized in 0.1% PBS-Tween used under the same conditions.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32117).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC2 antibody [Y461] - BSA and Azide free (ab213700)

Immunohistochemical analysis of HDAC2 expression in paraffin embedded human breast carcinoma tissue section, using 1/250 ab32117.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32117).

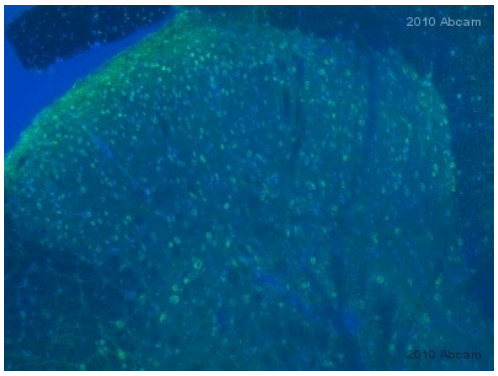


Immunocytochemistry/ Immunofluorescence - Anti-HDAC2 antibody [Y461] - BSA and Azide free (ab213700)

This ICC data was generated using the same anti-HDAC2 antibody clone, Y461, in a different buffer formulation (cat# ab32117).

ab32117 staining HDAC2 in wild-type HAP1 cells (top panel) and HDAC2 knockout HAP1 cells (bottom panel). The cells were fixed with 100% methanol (5min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab32117 at 1/250 dilution and ab195889 at 1/250 dilution (shown in pseudocolour red) overnight at +4°C, followed by a further incubation at room temperature for 1h with a goat secondary antibody to Rabbit IgG (Alexa Fluor® 488) (ab150081) at 2 µg/ml (shown in green). Nuclear DNA was labelled in blue with DAPI.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunohistochemistry (Frozen sections) - Anti-HDAC2 antibody [Y461] - BSA and Azide free (ab213700)

This IHC data was generated using the same anti-HDAC2 antibody clone, Y461, in a different buffer formulation (cat# ab32117).

ab32117 staining HDAC2 in Rat spinal cord tissue sections by Immunohistochemistry (IHC-Fr - frozen sections). Tissue was fixed with paraformaldehyde and blocked with 1% BSA for 30 minutes at 25°C. Samples were incubated with primary antibody (1/500 in PBS + 0.2% TritonX + 1% BSA) for 16 hours at 4°C. An Alexa Fluor®488-conjugated Donkey anti-rabbit IgG polyclonal (1/1000) was used as the secondary antibody. Antigen unmasking with sodium citrate buffer (10mM sodium citrate, 0.05% Tween 20, ph6) was necessary to obtain a good signal. The sections were counterstained with DAPI.

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