abcam

# ab247718

# Anti-HDAC10 antibody [EPR3576] - BSA and Azide free

Recombinant | RabMAb

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Storage buffer** | pH: 7.2 - 7.4 Constituents: PBS |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Carrier free** | Yes |
| **Clone number** | EPR3576 |
| **Purification technique** | Affinity purification Protein A |

## Reactivity data

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Transfected cell lysate - Human |
| **Dilution info** | - |
| **Notes** | - |

## IP

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Transfected cell lysate - Human |
| **Dilution info** | - |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Transfected cell lysate - Human, Human |
| **Dilution info** | - |
| **Notes** | - |

## IHC-P

### Not recommended

| | |
|---|---|
| **Species** | Human, Transfected cell lysate - Human |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Transfected cell lysate - Human |
| **Dilution info** | - |
| **Notes** | - |

## Target data

See full target information HDAC10

| | |
|---|---|
| **Function** | Polyamine deacetylase (PDAC), which acts preferentially on N(8)-acetylspermidine, and also on acetylcadaverine and acetylputrescine (PubMed:28516954). Exhibits attenuated catalytic activity toward N(1),N(8)-diacetylspermidine and very low activity, if any, toward N(1)-acetylspermidine (PubMed:28516954). Histone deacetylase activity has been observed in vitro (PubMed:11677242, PubMed:11726666, PubMed:11739383, PubMed:11861901). Has also been shown to be involved in MSH2 deacetylation (PubMed:26221039). The physiological relevance of protein/histone deacetylase activity is unclear and could be very weak (PubMed:28516954). May play a role in the promotion of late stages of autophagy, possibly autophagosome-lysosome fusion and/or lysosomal exocytosis in neuroblastoma cells (PubMed:23801752, PubMed:29968769). May play a role in homologous recombination (PubMed:21247901). May promote DNA mismatch repair (PubMed:26221039). |

## Storage

| | |
|---|---|
| **Shipped at conditions** | Blue Ice |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | +4°C |
| **Storage information** | Do Not Freeze |

## Notes

ab247718 is the carrier-free version of ab108934.

**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.

**Species reactivity**

Rat: We have preliminary internal testing data to indicate this antibody may not react with this species.
Please contact us for more information.

**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** | HDAC10 also known as Histone Deacetylase 10 is an enzyme belonging to the HDAC family instrumental in removing acetyl groups from histone proteins and other non-histone proteins. This protein around 71 kDa in mass influences chromatin structure and regulates gene transcription. HDAC10 is expressed in various tissues including the kidney and liver and plays a direct role in the modulation of gene expression through its deacetylase activity impacting cellular processes and environmental responses. |
| **Biological function summary** | HDAC10 functions as a regulatory component within the cellular milieu influencing transcriptional repression across several pathways. HDAC10 often forms part of multi-protein complexes although not extensively characterized they include other HDAC family members. It participates in controlling cell growth and cell cycle progress and shows involvement in DNA repair mechanisms. By modulating gene expression through deacetylation HDAC10 impacts cellular proliferation and differentiation. |

| | |
|---|---|
| **Pathways** | HDAC10 plays a role in the PI3K/AKT signaling pathway which is important for cell survival and growth. HDAC10 interacts with proteins like AKT1 assisting with the transduction of the signaling cascade that contributes to cell cycle progression and apoptosis regulation. Also this enzyme interplays with the autophagy pathway influencing cellular metabolism and homeostasis through its deacetylation functions impacting Beclin-1 regulation and activity levels. |
| **Associated diseases and disorders** | HDAC10 has been implicated in cancer and neurodegenerative diseases. In cancer particularly renal carcinoma HDAC10 may alter oncogene expression and tumor-suppressor levels connecting with proteins such as p53 which are vital in cell-cycle regulation and apoptosis. In neurodegenerative disorders modulations in HDAC10 levels affect huntingtin protein acetylation impacting the progression of diseases like Huntington's disease. Its role in histone and non-histone protein regulation positions HDAC10 as a potential target for therapeutic interventions in these 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**

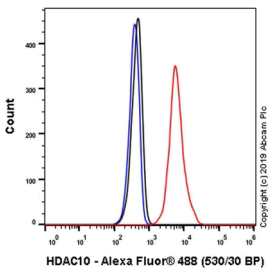
We do not recommend this combination. It is not covered by our product promise.

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.

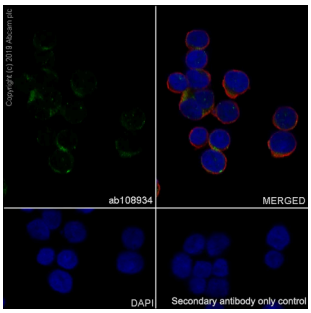
## 6 product images




## Flow Cytometry (Intracellular) - Anti-HDAC10 antibody [EPR3576] - BSA and Azide free (ab247718)

HDAC10 Flow Cytometry (Intracellular) staining using rabbit Anti-HDAC10 antibody

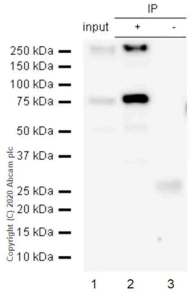
This data was developed using ab108934, the same antibody clone in a different buffer formulation. Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling HDAC10 with Purified ab108934 at 1/200 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488 ,ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).




## Immunocytochemistry/ Immunofluorescence - Anti-HDAC10 antibody [EPR3576] - BSA and Azide free (ab247718)

HDAC10 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-HDAC10 antibody

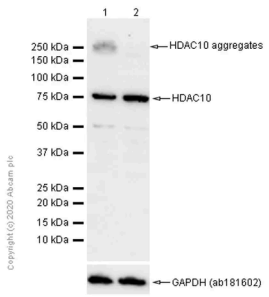
This data was developed using ab108934, the same antibody clone in a different buffer formulation.
Immunocytochemistry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling HDAC10 with Purified ab108934 at 1:200 dilution (8.75 µg/ml). Cells were fixed in 100% Methanol and permeabilized with None. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488,ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.




## Immunoprecipitation - Anti-HDAC10 antibody [EPR3576] - BSA and Azide free (ab247718)

This data was developed using ab108934, the same antibody clone in a different buffer formulation.
Purified ab108934 at 1/100 dilution (2µg) immunoprecipitating HDAC10 in HeLa whole cell lysate.
Lane 1 (input): HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate 10µg
Lane 2 (+): ab108934 + HeLa whole cell lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab108934 in HeLa 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: 75 kDa
All lanes:
Immunoprecipitation - Anti-HDAC10 antibody [EPR3576] (ab108934)

Predicted band size: 71 kDa




## Western blot - Anti-HDAC10 antibody [EPR3576] - BSA and Azide free (ab247718)

The unboiled lysate is recommended in order to prevent the aggregation of membrane proteins. This data was developed using ab108934, the same antibody clone in a different buffer formulation.

All lanes:
Western blot - Anti-HDAC10 antibody [EPR3576] (ab108934) at 1/5000 dilution

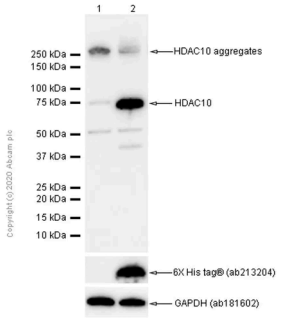
Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate boiled at 20 µg

Lane 2:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate unboiled at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 71 kDa




## Western blot - Anti-HDAC10 antibody [EPR3576] - BSA and Azide free (ab247718)

This data was developed using ab108934, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-HDAC10 antibody [EPR3576] (ab108934) at 1/1000 dilution

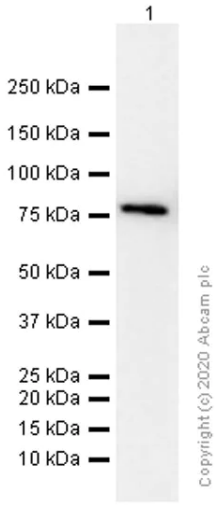
Lane 1:
293T (Human embryonic kidney epithelial cell) transfected with the empty vector containing the myc-His-tagÂ® at 20 µg

Lane 2:
293T (Human embryonic kidney epithelial cell) transfected with human HDAC10 expression vector containing the myc-His-tagÂ® at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 71 kDa




# Western blot - Anti-HDAC10 antibody [EPR3576] - BSA and Azide free (ab247718)

This data was developed using ab108934, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-HDAC10 antibody [EPR3576] (ab108934) at 1/1000 dilution

All lanes:
N-terminal GST-tagged human HDAC10 recombinant protein fragment (aa 1 to 482)

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 71 kDa

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