abcam

ab176319

Anti-ATAD2 antibody [EPR12730]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR12730
Purification technique	Affinity purification Protein A
Concentration	0.572 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/60
Notes	-

Target data

See full target information ATAD2

Function May be a transcriptional coactivator of the nuclear receptor ESR1 required to induce the expression of a subset of estradiol target genes, such as CCND1, MYC and E2F1. May play a role in the recruitment or occupancy of CREBBP at some ESR1 target gene promoters. May be required for histone hyperacetylation. Involved in

	the estrogen-induced cell proliferation and cell cycle progression of breast cancer cells.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

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

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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	ATAD2 also known as ATPase family AAA domain-containing protein 2 is a chromatin-associated AAA ATPase. This protein weighs approximately 157 kDa and functions mainly in the cell nucleus. ATAD2 is widely expressed in various tissues with high levels found in the testis indicating its possible role in testicular

	functions. It shows ATPase activity involving the hydrolysis of ATP which provides energy for chromatin remodeling processes.
Biological function summary	ATAD2 plays a critical role in transcription regulation by remodeling chromatin structure. As part of a complex it interacts with histone acetylation marks on chromatin therefore influencing gene expression. The protein is often involved in the regulation of genes relevant to cell cycle progression. Its interaction with transcriptional regulators highlights its importance in controlling proliferation and other cellular processes.
Pathways	The role of ATAD2 becomes essential in pathways like the cell cycle and the DNA damage response. Through these pathways it interacts with key proteins such as MYC a known regulator of cell growth and it influences the expression of genes involved in cell cycle control. It is important in maintaining genomic stability by ensuring proper chromatin dynamics during DNA replication and repair.
Associated diseases and disorders	Aberrant expression of ATAD2 associates with cancer progression particularly in breast cancer where it is highly expressed in MCF7 cell lines. It is also implicated in hepatocellular carcinoma where it interacts with cancer-related proteins such as p53 which is a well-known tumor suppressor. These interactions suggest that ATAD2 serves as a potential target for cancer therapies focused on disrupting its interactions or functions in tumor biology.

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

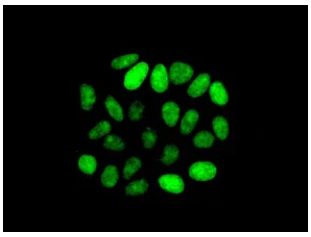
We do not recommend this combination. It is not covered by our product promise.

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.

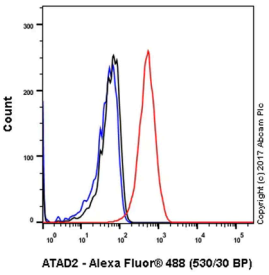
7 product images



Immunocytochemistry/ Immunofluorescence - Anti-ATAD2 antibody [EPR12730] (ab176319)

ATAD2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ATAD2 antibody

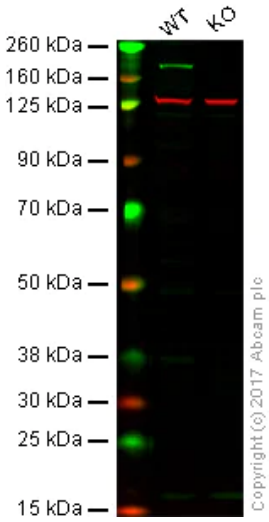
Immunofluorescent staining of HeLa cells labeling ATAD2 using ab176319 at a 1/100 dilution.



Flow Cytometry (Intracellular) - Anti-ATAD2 antibody [EPR12730] (ab176319)

ATAD2 Flow Cytometry (Intracellular) staining using rabbit Anti-ATAD2 antibody

Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling ATAD2 (red) with ab176319 at a 1/60 dilution. Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at a 1/2000 dilution. Black - Rabbit monoclonal IgG (ab172730). Blue (unlabeled control) - Cells without incubation with the primary and secondary antibodies.



Western blot - Anti-ATAD2 antibody [EPR12730] (ab176319)

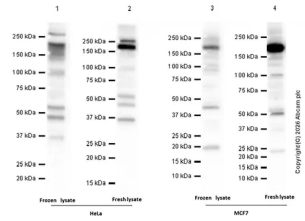
ATAD2 Western blot staining using rabbit Anti-ATAD2 antibody

Lane 1: Wild type HAP1 whole cell lysate (20 µg)
Lane 2: ATAD2 knockout HAP1 whole cell lysate (20 µg)
Lanes 1 - 2: Merged signal (red and green). Green - ab176319 observed at 200 kDa. Red - loading control, ab18058, observed at 130 kDa.

ab176319 was shown to specifically react with ATAD2 in wild type cells as signal was lost in ATAD2 knockout cells. Wild-type and ATAD2 knockout samples were subjected to SDS-PAGE. ab176319 and ab18058 (Mouse anti Vinculin loading control) were incubated overnight at 4°C at 500 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.

All lanes:
Western blot - Anti-ATAD2 antibody [EPR12730] (ab176319)

Predicted band size: 159 kDa



Western blot - Anti-ATAD2 antibody [EPR12730] (ab176319)

ATAD2 Western blot staining using rabbit Anti-ATAD2 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
This protein is prone to degradation. To minimize degradation, cells or tissues were lysed immediately after harvest using freshly prepared lysis buffer, followed by immediate gel electrophoresis and transfer to membranes for Western blot analysis.

All lanes:
Western blot - Anti-ATAD2 antibody [EPR12730] (ab176319) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell (frozen) lysate at 20 µg

Lane 2:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell (fresh) lysate at 20 µg

Lane 3:
MCF7 (human breast adenocarcinoma epithelial cell) whole cell (frozen) lysate at 10 µg

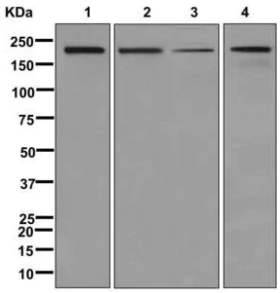
Lane 4:
MCF7 (human breast adenocarcinoma epithelial cell) whole cell (fresh) lysate at 10 µg

Secondary

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

Observed band size: 180 kDa

Exposure time: 10s



Western blot - Anti-ATAD2 antibody [EPR12730] (ab176319)

All lanes:
Western blot - Anti-ATAD2 antibody [EPR12730] (ab176319) at 1/1000 dilution

Lane 1:
HeLa lysate at 10 µg

Lane 2:
MCF-7 lysate at 10 µg

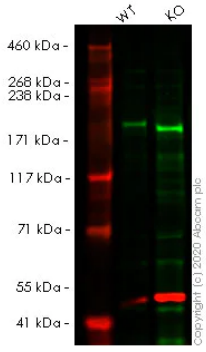
Lane 3:
T47-D lysate at 10 µg

Lane 4:
Saos-2 lysate at 10 µg

Predicted band size: 159 kDa

Western blot - Anti-ATAD2 antibody [EPR12730] (ab176319)

ATAD2 Western blot staining using rabbit Anti-ATAD2 antibody



Lanes 1- 2: Merged signal (red and green). Green - ab176319 observed at 200 kDa. Red - Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) observed at 50 kDa.
ab176319 was shown to react with ATAD2 in wild-type HeLa cells in western blot. The band observed in knockout cell line ab264957 (knockout cell lysate ab257359) lane below 200kDa may represent truncated forms and cleaved fragments. This has not been investigated further. Wild-type HeLa and ATAD2 knockout HeLa 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. ab176319 and Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) were incubated 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.
All lanes:
Western blot - Anti-ATAD2 antibody [EPR12730] (ab176319) at 1/1000 dilution

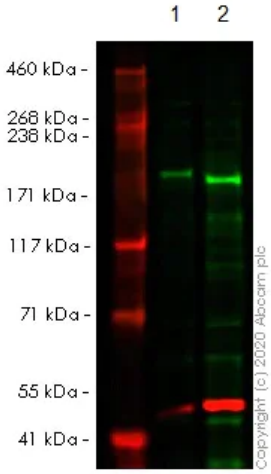
Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
ATAD2 knockout HeLa cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 159 kDa

Observed band size: 200 kDa



Western blot - Anti-ATAD2 antibody [EPR12730] (ab176319)

ATAD2 Western blot staining using rabbit Anti-ATAD2 antibody

Lanes 1- 2: Merged signal (red and green). Green - ab176319 observed at 200 kDa. Red - Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) observed at 50 kDa.
ab176319 was shown to react with ATAD2 in wild-type HeLa cells in western blot. The band observed in CRISPR/Cas9 edited cell line ab264957 (CRISPR/Cas9 edited cell lysate ab257359) lane below 200kDa may represent truncated forms and cleaved fragments. This has not been investigated further. Wild-type HeLa and ATAD2 CRISPR/Cas9 edited HeLa 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. ab176319 and Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) were incubated 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.

All lanes:
Western blot - Anti-ATAD2 antibody [EPR12730] (ab176319) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
ATAD2 CRISPR/Cas9 edited HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human ATAD2 knockout HeLa cell line (ab264957)

Performed under reducing conditions.

Predicted band size: 159 kDa

Observed band size: 200 kDa

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