abcam

ab249379

# Anti-Acid phosphatase/ACP1 antibody [EPR9839] - BSA and Azide free

Recombinant | RabMAb | KO Validated

## 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** | EPR9839 |
| **Purification technique** | Affinity purification |
| **Concentration** | 1.004 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

### IP

#### Tested

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

| | |
|---|---|
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## WB

### Tested

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

### Predicted

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## IHC-P

### Not recommended

| | |
|---|---|
| **Species** | Human, Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## ICC/IF

### Not recommended

| | |
|---|---|
| **Species** | Human, Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

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

### Predicted

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## Target data

See full target information ACP1

| | |
|---|---|
| **Function** | Acts on tyrosine phosphorylated proteins, low-MW aryl phosphates and natural and synthetic acyl phosphates with differences in substrate specificity between isoform 1 and isoform 2. Isoform 3. Does not possess phosphatase activity. |

## 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

ab249379 is the carrier-free version of ab166896.

**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.

**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** | Acid phosphatase also known as ACP1 or protein tyrosine phosphatase is an enzyme with a mass of approximately 18 kDa. It works by removing phosphate groups from tyrosine residues on proteins which modulates protein function. This phosphatase is expressed in various tissues including the pancreas and liver and is present in immune cells. In scientific studies ACP1 can also be studied in HEK 293 cells a commonly used human cell line for in vitro assays. |
| **Biological function summary** | The acid phosphatase enzyme plays an important role in cellular signaling and regulation of metabolic processes. It belongs to the enzyme family of protein tyrosine phosphatases which are key in dephosphorylating proteins and regulating signal transduction pathways. ACP1 does not function as part of a large protein complex but it still affects cellular processes by interacting with multiple molecular partners. |
| **Pathways** | The acid phosphatase enzyme is involved in key cellular signaling pathways including the insulin signaling pathway and T-cell receptor signaling. These pathways influence glucose metabolism and immune response. In these pathways ACP1 interacts with proteins such as the insulin receptor substrate and Lck influencing phosphorylation states and cellular activities. |
| **Associated diseases and disorders** | Acid phosphatase has connections to conditions like autoimmune diseases and type 2 diabetes. In autoimmune disorders altered ACP1 activity can affect immune cell signaling. Studies link increased enzyme activity or genetic variations to these conditions impacting associated proteins like the insulin receptor in diabetes or TCR complex proteins in immune dysfunctions providing insight into how aberrations in ACP1 can contribute to disease pathogenesis. |

## 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**

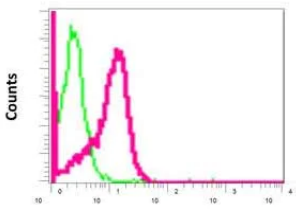
We do not recommend this combination. It is not covered by our product promise.

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.

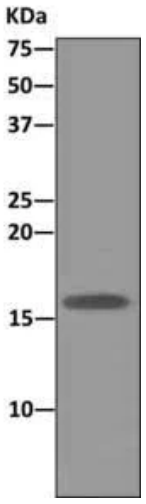
## 4 product images




### Flow Cytometry (Intracellular) - Anti-Acid phosphatase/ACP1 antibody [EPR9839] - BSA and Azide free (ab249379)

Acid phosphatase/ACP1 Flow Cytometry (Intracellular) staining using rabbit Anti-Acid phosphatase/ACP1 antibody

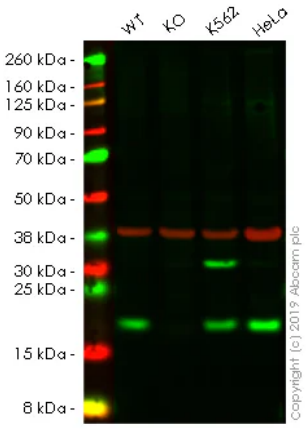
This data was developed using ab166896, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized HeLa cells labeling Acid Phosphatase/ACP1 using ab166896 at 1/10 dilution (red) compared to staining with a rabbi IgG negative control antibody (green).




## Immunoprecipitation - Anti-Acid phosphatase/ACP1 antibody [EPR9839] - BSA and Azide free (ab249379)

This data was developed using ab166896, the same antibody clone in a different buffer formulation.Western blot analysis on immunoprecipitation pellet from HeLa cell lysate using ab166896 at 1/10 dilution, and HRP-conjugated anti-rabbit IgG, preferentially detecting the non-reduced form of rabbit IgG.
All lanes:
Immunoprecipitation - Anti-Acid phosphatase/ACP1 antibody [EPR9839] (ab166896)

Predicted band size: 18 kDa




## Western blot - Anti-Acid phosphatase/ACP1 antibody [EPR9839] - BSA and Azide free (ab249379)

Acid phosphatase/ACP1 Western blot staining using rabbit Anti-Acid phosphatase/ACP1 antibody

This data was developed using ab166896, the same antibody clone in a different buffer formulation.
**Lanes 1 - 4:** Merged signal (red and green). Green - ab166896 observed at 18 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab166896 was shown to recognize ACP1 (Acid phosphatase 1) in wild-type HEK-293 cells as signal was lost at the expected MW in ACP1 knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and ACP1 knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% Milk. ab166896 and ab8245 (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.

All lanes:
Western blot - Anti-Acid phosphatase/ACP1 antibody [EPR9839] (ab166896) at 1/1000 dilution

Lane 1:
Wild-type HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate at 20 µg

Lane 2:
Western blot - Human ACP1 (Acid phosphatase) knockout HEK-293 cell lysate (ab261668) at 20 µg

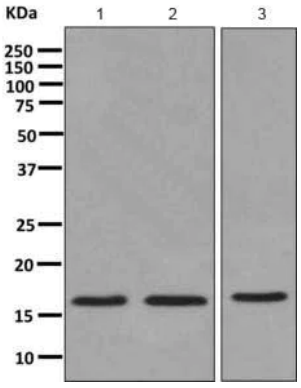
Lane 3:
K562 (Human chronic myelogenous leukemia lymphoblast cell line ) whole cell lysate at 20 µg

Lane 4:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 18 kDa

Observed band size: 18 kDa




# Western blot - Anti-Acid phosphatase/ACP1 antibody [EPR9839] - BSA and Azide free (ab249379)

Acid phosphatase/ACP1 Western blot staining using rabbit Anti-Acid phosphatase/ACP1 antibody

This data was developed using ab166896, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Acid phosphatase/ACP1 antibody [EPR9839] (ab166896) at 1/1000 dilution

Lane 1:
Human placenta lysate at 10 µg

Lane 2:
HeLa cell lysate at 10 µg

Lane 3:
HepG2 cell lysate at 10 µg

Secondary

All lanes:
goat anti-rabbit HRP antibody at 1/2000 dilution

Predicted band size: 18 kDa

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