abcam

ab209750

# PE Anti-ATP citrate lyase antibody [EP704Y]

Recombinant | RabMAb

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Conjugation** | PE |
| **Excitation/Emission** | Ex: 480;565nm, Em: 578nm |
| **Storage buffer** | pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Clone number** | EP704Y |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.5 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## Flow Cyt (Intra)

**Tested**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/5000 |

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

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Common marmoset |
| **Dilution info** | - |
| **Notes** | - |

## ICC/IF

### Expected

| | |
|---|---|
| **Species** | Human, Mouse, Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Common marmoset |
| **Dilution info** | - |
| **Notes** | - |

## IHC-P

### Expected

| | |
|---|---|
| **Species** | Human, Mouse, Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Common marmoset |
| **Dilution info** | - |
| **Notes** | - |

## Target data

See full target information ATP-citrate synthase

| | |
|---|---|
| **Function** | Catalyzes the cleavage of citrate into oxaloacetate and acetyl-CoA, the latter serving as common substrate in multiple biochemical reactions in protein, carbohydrate and lipid metabolism. |

## Storage

| | |
|---|---|
| **Shipped at conditions** | Blue Ice |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | +4°C |
| **Aliquoting information** | Upon delivery aliquot |
| **Storage information** | Do Not Freeze, Store in the dark |

## Notes

**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** | ATP citrate lyase (ACL ACLY) is an enzyme responsible for converting citrate and coenzyme A into acetyl-CoA and oxaloacetate using ATP in the process. This reaction is key for lipid and cholesterol biosynthesis. ACLY's alternate name is ATP citrate (pro-S)-lyase and it has a molecular weight of approximately 120 kDa. The enzyme is expressed mainly in the cytoplasm with substantial amounts found in liver and adipose tissues. |
| **Biological function summary** | ATP citrate lyase plays an important role in lipid metabolism and energy production. It drives the conversion of citrate-derived acetyl-CoA a central metabolite in lipogenesis providing substrates for fatty acid and cholesterol synthesis. ACLY functions as a homotetramer complex to facilitate its enzymatic activity. This mechanism supports energy homeostasis linking carbohydrate metabolism with lipid biosynthesis. |
| **Pathways** | The enzyme ATP citrate lyase is instrumental in the citric acid cycle and fatty acid synthesis pathways. It is a central player in the cholesterol biosynthesis pathway which tightly connects to acetyl-CoA and citrate shuttle processes. In these pathways it interacts functionally with other enzymes such as acetyl-CoA carboxylase which further processes acetyl-CoA into malonyl-CoA serving as a precursor for fatty acid elongation. |
| **Associated diseases and disorders** | ATP citrate lyase becomes significant in metabolic syndrome and cancer. Elevated expression and activity are linked to an increased risk of metabolic diseases including obesity and type 2 diabetes due to its role in excessive lipid accumulation. Moreover cancer cells often exhibit upregulated ACLY activity encouraging tumor growth by supplying acetyl-CoA for lipid biosynthesis. Its activity is intricately linked to proteins such as fatty acid synthase which also contribute to altered lipid profiles 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**

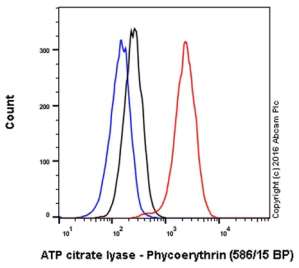
We do not recommend this combination. It is not covered by our product promise.

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.

## 1 product image




### Flow Cytometry (Intracellular) - PE Anti-ATP citrate lyase antibody [EP704Y] (ab209750)

ATP citrate lyase Flow Cytometry (Intracellular) staining using rabbit Anti-ATP citrate lyase antibody

Overlay histogram showing HeLa cells stained with ab209750 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Triton X-100 for 30 min at 22°C. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab209750, 1/5000 dilution) for 30 min at 22°C.
Isotype control antibody (black line) was rabbit IgG (monoclonal) Phycoerythrin (ab209478) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 50mW Yellow-Green laser (561nm) and 586/15 bandpass filter.

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