# Human ACLY / acly / ATP citrate lyase Protein (His Tag)

**Catalog Number:** **11769-H07B**

Sino Biological Inc.
Biological Solution Specialist

## General Information

**Gene Name Synonym:**

ACL; ATPCL; CLATP; A730098H14Rik; AW538652

**Protein Construction:**

A DNA sequence encoding the human ACLY (P53396) (Met 1-Met 1101) was expressed, with a polyhistidine tag at the N-terminus.

**Source:** Human

**Expression Host:** Baculovirus-Insect Cells

## QC Testing

**Purity:** > 90 % as determined by SDS-PAGE

**Endotoxin:**

< 1.0 EU per μg of the protein as determined by the LAL method

**Stability:**

Samples are stable for up to twelve months from date of receipt at -70 ℃

**Predicted N terminal:** Met

**Molecular Mass:**

The recombinant human ACLY consists of 1120 amino acids and has a calculated molecular mass of 123 kDa. It migrates as an approximately 110 kDa band in SDS-PAGE under reducing conditions.

**Formulation:**

Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 8.0, 10% gly

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

**Storage:**

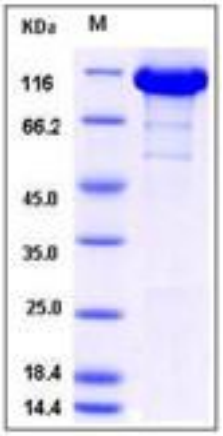
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

**Reconstitution:**

Detailed reconstitution instructions are sent along with the products.

**SDS-PAGE:**




## Protein Description

ATP citrate lyase, also known as Acly or Acl, is the primary enzyme responsible for the synthesis of cytosolic acetyl-CoA in many tissues. The enzyme is composed of two polymer chains which are polypeptides in human. ATP citrate lyase is responsible for catalyzing the conversion of citrate and CoA into acetyl-CoA and oxaloacetate, along with the hydrolysis of ATP. A definitive role for ATP citrate lyase in tumorigenesis has emerged from ATP citrate lyase RNAi and chemical inhibitor studies, showing that ATP citrate lyase inhibition limits tumor cell proliferation and survival and induces differentiation in vitro. In vivo, it reduces tumor growth leading to a cytostatic effect and induces differentiation.

### References

1.Kim W, *et al*. (2006) Both subunits of ATP-citrate lyase from Chlorobium tepidum contribute to catalytic activity. J Bacteriol. 188 (18) : 6544-52.
2.Ki SW, *et al*. (2000) Radicicol binds and inhibits mammalian ATP citrate lyase. J Biol Chem. 275 (50) : 39231-6.
3.Schneider K, *et al*. (2000) Biosynthesis of the prosthetic group of citrate lyase. Biochemistry. 39 (31) : 9438-50.