# Data Sheet (Cat.No.TMPY-02483)

TargetMol

## ATP citrate lyase/ACLY Protein, Human, Recombinant (His)

### General Information

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| Synonyms: | ATPCL;ACL;ATP citrate lyase;CLATP |
| Protein Construction: | A DNA sequence encoding the human ACLY (P53396) (Met 1-Met 1101) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: Met |
| Species: | Human |
| Expression Host: | Baculovirus Insect Cells |
| Accession: | P53396 |
| Molecular Weight: | 123 kDa (predicted); 110 kDa (reducing conditions) |

### QC Testing

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| Biological Activity: | Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first. |
| Purity: | > 85 % as determined by SDS-PAGE |
| Endotoxin: | < 1.0 EU/μg of the protein as determined by the LAL method. |
| Formulation: | Supplied as sterile 20 mM Tris, 500 mM NaCl, pH 8.0, 10% glycerol. |

### Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

### Protein Background

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.

Reference

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



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