

# Phospho-ATP-Citrate Lyase (Ser454) Antibody

✓ 100 µl  
(10 western blots)

Orders ■ 877-616-CELL (2355)  
orders@cellsignaling.com

Support ■ 877-678-TECH (8324)  
info@cellsignaling.com

Web ■ www.cellsignaling.com

rev. 03/0810

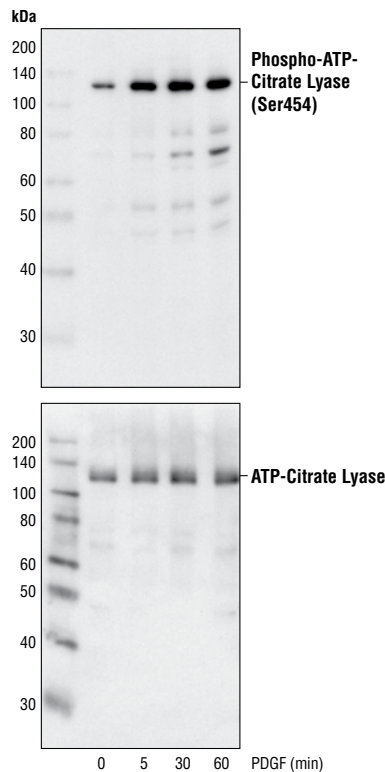
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, M, (R)	125 kDa	Rabbit**

**Background:** ATP-citrate lyase (ACL) is a homotetramer that catalyzes the formation of acetyl-CoA and oxaloacetate (OAA) in the cytosol, which is the key step for the biosynthesis of fatty acids, cholesterol and acetylcholine, as well as for gluconeogenesis (1). Nutrients and hormones regulate the expression level and phosphorylation of ATP-citrate lyase (1,2). It is phosphorylated by GSK-3 on Thr446 and Ser450 (3). Ser454 of ATP-citrate lyase has been reported to be phosphorylated by PKA and Akt (4,5). Phosphorylation on Ser454 abolishes the homotropic allosteric regulation by citrate and enhances the catalytic activity of the enzyme (2).

**Specificity/Sensitivity:** Phospho-ATP-Citrate lyase (Ser454) Antibody detects endogenous levels of ATP-citrate lyase only when phosphorylated at serine 454.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser454 of human ATP-citrate lyase. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from NIH/3T3 cells, untreated or PDGF-treated for the indicated times, using Phospho-ATP-Citrate Lyase (Ser454) Antibody (upper) or ATP-Citrate Lyase Antibody #4332 (lower).

Entrez-Gene ID #47  
Swiss-Prot Acc. #P53396

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

\*Species cross-reactivity is determined by western blot.

\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

#### Recommended Antibody Dilutions:

Western blotting 1:1000  
Immunoprecipitation 1:50

#### Background References:

- (1) Towle, H.C. et al. (1997) *Annu. Rev. Nutr.* 17, 405–433.
- (2) Potapova, I.A. et al. (2000) *Biochemistry* 39, 1169–1179.
- (3) Hughes, K. et al. (1992) *Biochem. J.* 288, 309–314.
- (4) Pierce, M.W. et al. (1982) *J. Biol. Chem.* 257, 10681–10686.
- (5) Berwick, D.C. et al. (2002) *J. Biol. Chem.* 277, 33895–33900.

For application specific protocols please see the web page for this product at [www.cellsignaling.com](http://www.cellsignaling.com).

Please visit [www.cellsignaling.com](http://www.cellsignaling.com) for a complete listing of recommended companion products.

**IMPORTANT:** For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine  
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.