

# Anti-phospho-Acetyl CoA Carboxylase (Ser79)

Polyclonal Antibody

Cat. # 07-303

Lot # LV1506382

pack size: 200 µg

Store at -20°C

FOR RESEARCH USE ONLY  
NOT FOR USE IN HUMANS



## Certificate of Analysis

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Applications	Species Cross-Reactivity	Antibody Isotype	Epitope/Region	Host Species	Molecular Weight	Accession #
WB	H, M, R, Rb	IgG	N/A	Rb	257 kDa	NP_942131, NP_001084

### Background

Acetyl-CoA carboxylase (ACC) is a biotin-dependent enzyme that catalyzes carboxylation of acetyl-CoA to produce malonyl-CoA through its two catalytic activities, biotin carboxylase (BC) and carboxyltransferase (CT). ACC is a multi-subunit enzyme in most prokaryotes, whereas it is a large, multi-domain enzyme in most eukaryotes. The activity of ACC can be controlled at the transcriptional level as well as by small molecule modulators and covalent modification. Human genome contains the genes for two different ACCs - ACACA and ACACB. The activity of the enzyme is controlled by the reversible phosphorylation. The activities of the enzyme is inhibited if phosphorylated; the phosphorylation takes place when the hormones, glucagon or epinephrine bind to the receptors or the energy status of the cell is low, leading to the activation of the AMP-activated protein kinase. The presence of fatty acid inhibits the activities of the enzyme. When insulin binds to its receptors of the cell, it activates a phosphatase to dephosphorylate the enzyme; the activities of the acetyl-CoA carboxylase is thus enhanced. Acetyl-CoA carboxylase has recently become a target in the design of new anti-obesity and antibiotic drugs.

### Presentation

Protein A purified IgG in buffer containing 0.014 M phosphate buffer, pH 7.6, 0.175 M NaCl, 0.07% sodium azide and 30% glycerol.

### Concentration

1 mg/mL

### Specificity

Recognizes Acetyl CoA Carboxylase phosphorylated at Serine 79, Mr 257 kDa.

### Species Cross-Reactivity

Human, mouse, rat and rabbit.

### Immunogen

KLH conjugated synthetic peptide (C-HM RSSM[pS]GLHLVK) corresponding to amino acid 73-85 of rat Acetyl CoA Carboxylase.

### Method of Purification

Protein A chromatography

### Storage and Handling

Stable for 1 year at -20°C from date of receipt.

Handling Recommendations: Upon receipt, and prior to removing the cap, centrifuge the vial and gently mix the solution. Aliquot into microcentrifuge tubes and store at -20°C.

**Avoid repeated freeze/thaw cycles, which may damage IgG and affect product performance.** Note: Variability in freezer temperatures below -20°C may cause glycerol-containing solutions to become frozen during storage.

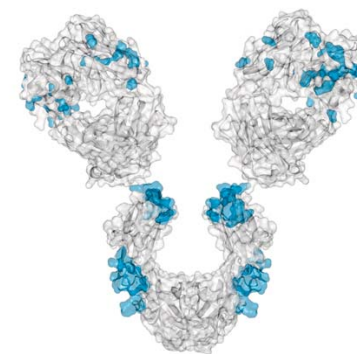
### Control

Oligomycin-treated HEK293 cells, serum-starved NIH/3T3 cells, mouse heart cytosol cell lysate or human breast carcinoma

### Quality Control Testing

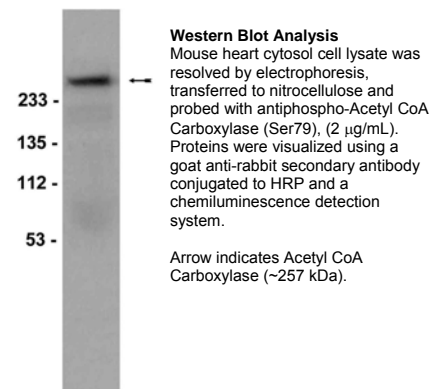
Routinely evaluated by immunoblot on RIPA lysates from mouse heart cytosol; pretreating the blot with lambda phosphatase abolished antibody binding.

Western Blot Analysis: 0.5-2 µg/mL of this lot detected phosphorylated Acetyl CoA Carboxylase in RIPA lysates from mouse heart cytosol. Pretreating the blot with lambda phosphatase abolished antibody binding. A previous lot of this antibody was pretreated with the phospho-peptide immunogen, which also blocked antibody binding.



### References

1. Andersson, U., et al. (2004). *J Biol Chem.* 279: 12005-8.
2. Chan, A. Y., et al. (2004). *J Biol Chem.* 279: 32771-9.
3. Miyazaki, M., et al. (2004). *J Biol Chem.* 279: 35017-24.
4. Orci, L., et al. (2004). *Proc Natl Acad Sci U.S.A.* 101: 2058-63.
5. Nagata, D., et al. (2003). *J Biol Chem.* 278: 31000-6.



**APPLICATION LEGEND:** WB Western Blotting CHIP Chromatin Immunoprecipitation IP Immunoprecipitation IC Immunocytochemistry IF Immunofluorescence IH Immunohistochemistry (Tissue)

**SPECIES LEGEND:** H Human M Mouse R Rat Rb Rabbit WR Most Common Vertebrates

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**PROTOCOL**

**Western Blot**

1. Perform SDS-polyacrylamide gel electrophoresis (SDS-PAGE) on a cell lysate sample (cell lysis buffer: 50 mM Tris-HCl, pH 7.4; 1% NP-40; 0.25% sodium deoxycholate; 150 mM NaCl; 1 mM EDTA; 1 mM PMSF; 1 mg/mL each aprotinin, leupeptin, pepstatin; 1 mM Na3VO4; 1 mM NaF) and transfer the proteins to nitrocellulose. Wash the blotted nitrocellulose twice with water.
2. Block the blotted nitrocellulose in freshly prepared TBS containing 5% nonfat dry milk (Catalog # 20-200), (TBSMK) for 2 hours at room temperature with constant agitation.
3. Incubate the nitrocellulose with 0.5-2 µg/mL of anti-phospho-Acetyl CoA Carboxylase (Ser79) diluted in freshly prepared TBS-MLK containing 0.05% Tween-20, overnight at 4°C.
4. Wash the nitrocellulose three times with water.
5. Incubate the nitrocellulose in the secondary reagent of choice (a goat anti-rabbit HRP conjugated IgG, Catalog #12-348, 1:5000 dilution was used) in TBS-MLK containing 0.05% Tween-20, for 1.5 hours at room temperature with agitation.
6. Rinse the nitrocellulose with water twice
7. Wash the nitrocellulose in TBS-0.05% Tween 20 for 3-5 minutes.
8. Wash the nitrocellulose with several changes of water for 1-2 hours.
9. Use detection method of choice (enhanced chemiluminescence was used).

**RELATED PRODUCTS (specific)**

cat #	description
07-439	■ Anti-Acetyl CoA Carboxylase
04-322	■ Anti-Acetyl CoA Carboxylase 1, Rabbit mAb
05-673	■ Anti-phospho-Acetyl CoA Carboxylase (Ser79), clone BK102
12-491	■ ACC2 (aa 175-271)
64-202	■ Visualizer™ Western Blot Detection Kit, rabbit
12-348	■ Goat Anti-Rabbit IgG

**RELATED PRODUCTS (non-specific)**

cat #	description
IPVH00010	■ Immobilon-P 26.5 cm x 3.75 m Roll PVDF 0.45 µm
IPFL00010	■ Immobilon-FL 26.5 cm x 3.75 m Roll PVDF 0.45 µm
IPVH07850	■ Immobilon-P 7 x 8.4 cm PVDF 0.45 mm (sheet) 50/pk
ISEQ00010	■ Immobilon-P SQ 26.5 cm x 3.75 m 1 roll PVDF 0.2 µm
ISEQ07850	■ Immobilon-P 7 x 8.4 cm PVDF 0.2 mm (sheet) 50/pk
IPFL07810	■ Immobilon-FL 7 x 8.4 cm PVDF 0.45 mm (sheet) 10/pk
WBKLS0100	■ Immobilon Western Chemilum HRP Substrate 100 mL
17-373	■ Spray & Glow™ ECL WB Detection System 1 ea
2060	■ Re-Blot Western Blot Recycling Kit
2500	■ Re-Blot Plus Western Blot Recycling Kit
B2080-175GM	■ Blot Quick Blocker Membrane Blocking Agent 175G

■ antibodies ■ Multiplex products ■ biotools ■ cell culture ■ enzymes ■ kits ■ proteins/peptides ■ siRNA/cDNA products

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