

PRODUCT INFORMATION

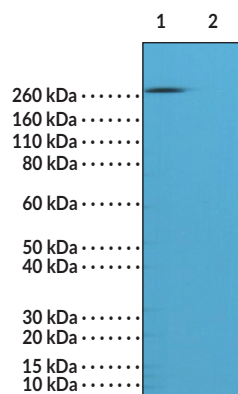
Acetyl-CoA Carboxylase 1 (Phospho-Ser⁷⁹) Rabbit Monoclonal Antibody (Clone RM270)

Item No. 32220

Overview and Properties

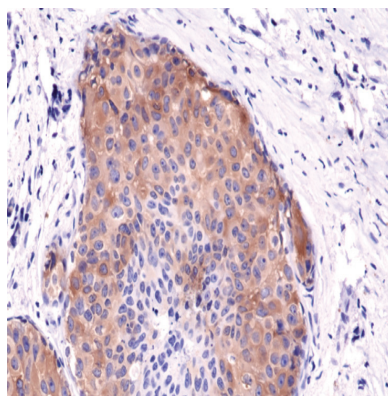
Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	ACCA (Phospho-Ser ⁷⁹), pACC1-Ser ⁷⁹ , pSer ⁷⁹ ACC1
Immunogen:	Peptide corresponding to human ACC1 (phospho-Ser ⁷⁹)
Cross Reactivity:	(+) ACC1 (phospho-Ser ⁷⁹); (-) ACC1 without phosphorylation at Ser ⁷⁹
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM270
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:1,000-1:2,000 for IHC and 1:1,000-1:5,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: A431 cell lysates (untreated)
Lane 2: A431 cell lysates (treated)

WB of A431 cell lysates untreated or treated with lambda protein phosphatase (LPP) using Acetyl-CoA Carboxylase 1 (Phospho-Ser⁷⁹) Rabbit Monoclonal Antibody (Clone RM270) at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human breast cancer tissue using Acetyl-CoA Carboxylase 1 (Phospho-Ser⁷⁹) Rabbit Monoclonal Antibody (Clone RM270) at a dilution of 1:5,000.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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Description

Acetyl-CoA carboxylase 1 (ACC1) is a biotin-dependent enzyme that catalyzes the conversion of acetyl-CoA (Item No. 16160) to malonyl-CoA (Item No. 16455), a building block in the biosynthesis of long-chain fatty acids.¹⁻³ It is found at high levels in the liver and adipose tissue and is localized to the cytosol.³ Expression of ACC1 is increased by sterol regulatory element binding protein-1a (SREBP-1a) and SREBP-1c, which are induced by insulin, as well as the lipid precursors inositol and choline (Item No. 31178).¹ ACC1 activity is increased by citrate and inhibited by binding to long-chain acyl-CoAs or by phosphorylation by a number of kinases, including AMPK and TAK1.^{1,3,4} Phosphorylation of ACC1 at serine 79 by AMPK inhibits the catalytic activities of ACC1, preventing the generation of malonyl-CoA, whereas dephosphorylation by protein phosphatase 4 promotes hepatic lipogenesis.^{5,6} Knock-in mice with an alanine in place of serine at position 79 to prevent phosphorylation at this residue of Acc1 have increased *de novo* lipogenesis, reduced β -oxidation, and increased insulin resistance and glucose intolerance.⁵ Cayman's Acetyl-CoA Carboxylase 1 (Phospho-Ser⁷⁹) Rabbit Monoclonal Antibody (Clone RM270) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Tong, L. Acetyl-coenzyme A carboxylase: Crucial metabolic enzyme and attractive target for drug discovery. *Cell. Mol. Life Sci.* **62(16)**, 1784-1803 (2005).
2. Wu, X. and Huang, T. Recent development in acetyl-CoA carboxylase inhibitors and their potential as novel drugs. *Future Med. Chem.* **12(6)**, 533-561 (2020).
3. Chen, L., Duan, Y., Wei, H., *et al.* Acetyl-CoA carboxylase (ACC) as a therapeutic target for metabolic syndrome and recent developments in ACC1/2 inhibitors. *Expert Opin. Investig. Drugs* **28(10)**, 917-930 (2019).
4. Rios Garcia, M., Steinbauer, B., Srivastava, K., *et al.* Acetyl-CoA carboxylase 1-dependent protein acetylation controls breast cancer metastasis and recurrence. *Cell Metab.* **26(6)**, 842-855 (2017).
5. Fullerton, M.D., Galic, S., Marcinko, K., *et al.* Single phosphorylation sites in Acc1 and Acc2 regulate lipid homeostasis and the insulin-sensitizing effects of metformin. *Nat. Med.* **19(12)**, 1649-1654 (2013).
6. Meng, X., Li, M., Guo, J., *et al.* Protein phosphatase 4 promotes hepatic lipogenesis through dephosphorylating acetyl CoA carboxylase 1 on serine 79. *Mol. Med. Rep.* **10(4)**, 1959-1963 (2014).

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