

Mouse Anti-human CoA Clone: 567A19-12G9 Monoclonal Antibody

Catalog Number:	PT-mAb-CoA
Quantity:	100ug
Concentration:	1mg/mL
Specificity:	Human
Immunogen:	CoA-conjugated bovine serum albumin
Isotype:	IgG
Supplies As:	Protein A purified; 50% Glycerol
Storage:	-20 °C

Applications and Suggested Dilutions*:

Western Blot: 1-5 µg/ml;

Immunohistochemistry: 1-5 µg/ml

*Specific dilutions and blocking conditions should be determined by the investigator.

Coenzyme A (CoA) is a small molecule coenzyme, involved in the synthesis and oxidation of fatty acids, and the oxidation of pyruvate in the citric acid cycle. CoA is used as a substrate by around 4% of cellular enzymes. CoA biosynthesis requires cysteine, pantothenate (vitamin B5), and adenosine triphosphate (ATP). More recently, protein CoAlation, a widespread reversible post-translational modification, has been shown to play an important role in redox regulation under physiological and pathophysiological conditions (1). The mouse-derived mAb 567A19-12G9 was developed by using CoA-conjugated bovine serum albumin (BSA) as immunogen (2). The CoA mAb exhibits excellent detection sensitivity and is able to detect less than 10 ng CoA-BSA in immunoblot analysis (3). The mAb 567A19-12G9 also recognizes dephosphorylated CoA (De-P-CoA)-BSA at compatible sensitivity (3).

References:

1. Tsuchiya Y, Peak-Chew SY, Newell C, Miller-Aidoo S, Mangal S, Zhyvoloup A, Bakovic J, Malanchuk O, Pereira GC, Kotiadis V, Szabadkai G, Duchon MR, Campbell M, Cuenca SR, Vidal-Puig A, James AM, Murphy MP,

Filonenko V, Skehel M, Gout I. Protein CoAlation: a redox-regulated protein modification by coenzyme A in mammalian cells. *Biochem J.* 2017 Jul 11;474(14):2489-2508. doi: 10.1042/BCJ20170129. PMID: 28341808; PMCID: PMC5509381.

2. McKenzie SJ, Marks PJ, Lam T, Morgan J, Panicali DL, Trimpe KL, Carney WP. Generation and characterization of monoclonal antibodies specific for the human neu oncogene product, p185. *Oncogene.* 1989 May;4(5):543-8. PMID: 2566965.

3. Lin CC, Lin YT, Chen SY, Setayeshpour Y, Chen Y, Dunn DE, Soderblom EJ, Zhang GF, Filonenko V, Jeong SY, Floyd S, Hayflick SJ, Gout I, Chi JT. Protein CoAlation on TXNRD2 regulates mitochondrial thioredoxin system to protect against ferroptosis. *bioRxiv Preprint* (<https://www.biorxiv.org/content/10.1101/2024.05.16.594391v1>)