SANTA CRUZ BIOTECHNOLOGY, INC.

ATP-citrate synthase (5F8D11): sc-517267

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

ATP-citrate synthase, also designated ATP-citrate lyase or citrate cleavage enzyme, is a cytoplasmic homotetramer belonging to the succinate/malate CoA ligase family. The gene coding for this protein maps against chromosome 17q21.2. ATP-citrate synthase catalyses the formation of acetyl-CoA and oxaloacetate from citrate and CoA. This product, acetyl-CoA, is necessary for both fatty acid and cholesterol biosynthesis. ATP citrate-lyase is important in the biosynthesis of acetylcholine in nervous tissue.

CHROMOSOMAL LOCATION

Genetic locus: ACLY (human) mapping to 17q21.2; Acly (mouse) mapping to 11 D.

SOURCE

ATP-citrate synthase (5F8D11) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 306-502 of ATP-citrate synthase of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ATP-citrate synthase (5F8D11) is available conjugated to agarose (sc-517267 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-517267 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-517267 PE), fluorescein (sc-517267 FITC), Alexa Fluor® 488 (sc-517267 AF488), Alexa Fluor® 546 (sc-517267 AF546), Alexa Fluor® 594 (sc-517267 AF594) or Alexa Fluor® 647 (sc-517267 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-517267 AF680) or Alexa Fluor® 790 (sc-517267 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ATP-citrate synthase (5F8D11) is recommended for detection of ATP-citrate synthase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ATP-citrate synthase siRNA (h): sc-45206, ATP-citrate synthase siRNA (m): sc-45207, ATP-citrate synthase shRNA Plasmid (h): sc-45206-SH, ATP-citrate synthase shRNA Plasmid (m): sc-45207-SH, ATP-citrate synthase shRNA (h) Lentiviral Particles: sc-45206-V and ATP-citrate synthase shRNA (m) Lentiviral Particles: sc-45207-V.

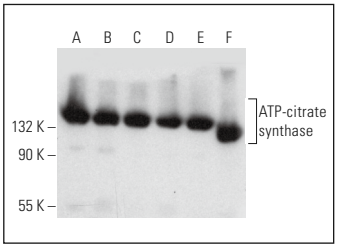
Molecular Weight of ATP-citrate synthase: 120 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or Jurkat whole cell lysate: sc-2204.

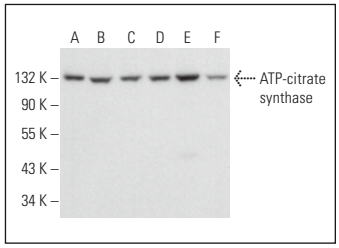
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



ATP-citrate synthase (5F8D11): sc-517267. Western blot analysis of ATP-citrate synthase expression in Jurkat (**A**), HeLa (**B**), Raji (**C**), A-431 (**D**), K-562 (**E**) and 3T3-L1 (**F**) whole cell lysates.



ATP-citrate synthase (5F8D11): sc-517267. Western blot analysis of ATP-citrate synthase expression in Jurkat (**A**), IMR-32 (**B**), Y79 (**C**), Neuro-2A (**D**), PC-12 (**E**) and C6 (**F**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Santos, P.M., et al. 2019. Tumor-derived α-fetoprotein suppresses fatty acid metabolism and oxidative phosphorylation in dendritic cells. Cancer Immunol. Res. 7: 1001-1012.
2. Cap, K.C., et al. 2020. Distinct dual roles of p-Tyr42 RhoA GTPase in Tau phosphorylation and ATP citrate lyase activation upon different Aβ concentrations. Redox Biol. 32: 101446.
3. Ahonen, M.A., et al. 2021. Human adipocyte differentiation and composition of disease-relevant lipids are regulated by miR-221-3p. Biochim. Biophys. Acta Mol. Cell Biol. Lipids 1866: 158841.
4. Visioli, F., et al. 2022. Hydroxytyrosol improves mitochondrial energetics of a cellular model of Alzheimer's disease. Nutr. Neurosci. 25: 990-1000.
5. Hossain, A.J., et al. 2022. Pyruvate dehydrogenase A1 phosphorylated by Insulin associates with pyruvate kinase M2 and induces LINC00273 through histone acetylation. Biomedicines 10: 1256.
6. Ismail, A., et al. 2022. Hydroxycitric acid reverses tamoxifen resistance through inhibition of ATP citrate lyase. Pathol. Res. Pract. 240: 154211.
7. Roberts, M.A., et al. 2023. Parallel CRISPR-Cas9 screens identify mechanisms of PLIN2 and lipid droplet regulation. Dev. Cell 58: 1782-1800.e10.
8. Yang, X., et al. 2024. Leukemia inhibitory factor suppresses hepatic *de novo* lipogenesis and induces cachexia in mice. Nat. Commun. 15: 627.
9. Rojas, M.L., et al. 2024. StarD7 deficiency switches on glycolysis and promotes mitophagy flux in C2C12 myoblasts. FEBS J. 291: 338-357.
10. Chiou, J., et al. 2025. Targeting metabolic and epigenetic vulnerabilities in glioblastoma with SN-38 and rabusertib combination therapy. Int. J. Mol. Sci. 26: 474.

RESEARCH USE

For research use only, not for use in diagnostic procedures.