SANTA CRUZ BIOTECHNOLOGY, INC.

ATP-citrate synthase (C-20): sc-30538

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 17q12-q21. 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.

REFERENCES

1. Lord, K.A. et al. 1997. Variant cDNA sequences of human ATP-citrate lyase: cloning, expression, and purification from baculovirus-infected insect cells. Protein Expr. Purif. 9: 133-141.
2. Sato, R. et al. 2000. Transcriptional regulation of the ATP-citrate lyase gene by sterol regulatory element-binding proteins. J. Biol. Chem. 275: 12497-12502.
3. Berwick, D.C. et al. 2002. The identification of ATP-citrate lyase as a protein kinase B (Akt) substrate in primary adipocytes. J. Biol. Chem. 277: 33895-33900.
4. Moon, Y.A. et al. 2002. Characterization of *cis*-acting elements in the rat ATP-citrate lyase gene promoter. Exp. Mol. Med. 34: 60-68.
5. Beigneux, A.P. et al. 2004. ATP-citrate lyase deficiency in the mouse. J. Biol. Chem. 279: 9557-9564.
6. Tosukhowong, P. et al. 2005. Effects of potassium-magnesium citrate supplementation on cytosolic ATP-citrate lyase and mitochondrial aconitase activity in leukocytes: A window on renal citrate metabolism. Int. J. Urol. 12: 140-144.
7. Fatland, B.L. et al. 2005. Reverse genetic characterization of cytosolic acetyl-CoA generation by ATP-citrate lyase in *Arabidopsis*. Plant Cell 17: 182-203.

CHROMOSOMAL LOCATION

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

SOURCE

ATP-citrate synthase (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of ATP-citrate synthase of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-30538 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

ATP-citrate synthase (C-20) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

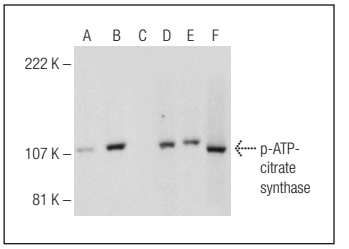
ATP-citrate synthase (C-20) is also recommended for detection of ATP-citrate synthase in additional species, including equine, canine, bovine, porcine and avian.

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.

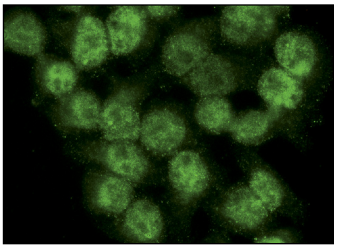
Molecular Weight of ATP-citrate synthase: 120 kDa.

Positive Controls: Hela whole cell lysate: sc-2200.

DATA



Western blot analysis of ATP-citrate synthase phosphorylation in untreated (**A**,**D**), calyculin A treated (**B**,**E**) and calyculin A and lambda protein phosphatase (sc-200312A) treated (**C**,**F**) Jurkat whole cell lysates. Antibodies tested is p-ATP-citrate synthase (A-12): sc-374647 (**A**,**B**,**C**) and ATP-citrate synthase (C-20): sc-30538 (**D**,**E**,**F**).



ATP-citrate synthase (C-20): sc-30538. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Migita, T., et al. 2008. ATP citrate lyase: activation and therapeutic implications in non-small cell lung cancer. Cancer Res. 68: 8547-8554.
2. Panfoli, I., et al. 2009. Evidence for aerobic metabolism in retinal rod outer segment disks. Int. J. Biochem. Cell Biol. 41: 2555-2565.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.