SANTA CRUZ BIOTECHNOLOGY, INC.

Squalene synthetase (A-7): sc-271602

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Several proteins mediate the biosynthesis of cholesterol. The first specific step in the cholesterol biosynthetic pathway is the conversion of trans-farnesyl-diphosphate to squalene, which is catalyzed by the endoplasmic reticulum membrane-associated enzyme Squalene synthetase, also designated Squalene synthase and Farnesyl-diphosphate farnesyltransferase. Squalene synthetase is located at a branch point in the mevalonate pathway and is also involved in isoprenoid biosynthesis. Squalene epoxidase, also designated squalene monooxygenase, is a multi-pass microsomal membrane-associated enzyme that catalyzes the first oxygenation step in sterol biosynthesis and most likely functions as one of the rate-limiting enzymes in this pathway. Squalene epoxidase may form a complex with Squalene synthetase.

CHROMOSOMAL LOCATION

Genetic locus: FDFT1 (human) mapping to 8p23.1; Fdft1 (mouse) mapping to 14 D1.

SOURCE

Squalene synthetase (A-7) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of Squalene synthetase 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.

Squalene synthetase (A-7) is available conjugated to agarose (sc-271602 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271602 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271602 PE), fluorescein (sc-271602 FITC), Alexa Fluor® 488 (sc-271602 AF488), Alexa Fluor® 546 (sc-271602 AF546), Alexa Fluor® 594 (sc-271602 AF594) or Alexa Fluor® 647 (sc-271602 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271602 AF680) or Alexa Fluor® 790 (sc-271602 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Squalene synthetase (A-7) is recommended for detection of Squalene synthetase of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

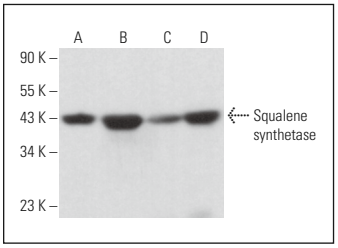
Suitable for use as control antibody for Squalene synthetase siRNA (h): sc-61610, Squalene synthetase siRNA (m): sc-61611, Squalene synthetase shRNA Plasmid (h): sc-61610-SH, Squalene synthetase shRNA Plasmid (m): sc-61611-SH, Squalene synthetase shRNA (h) Lentiviral Particles: sc-61610-V and Squalene synthetase shRNA (m) Lentiviral Particles: sc-61611-V.

Molecular Weight of Squalene synthetase: 52 kDa.

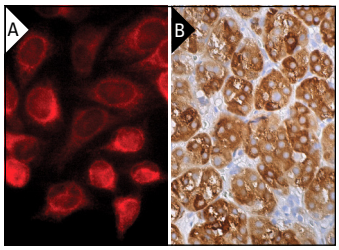
STORAGE

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

DATA



Squalene synthetase (A-7): sc-271602. Western blot analysis of Squalene synthetase expression in Daudi (**A**), THP-1 (**B**), PC-12 (**C**) and L6 (**D**) whole cell lysates.



Squalene synthetase (A-7): sc-271602. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Koizumi, Y., et al. 2019. Genome-scale CRISPR/Cas9 screening revealed Squalene epoxidase as susceptibility factor for cytotoxicity of malformin A1. Chembiochem 20: 1563-1568.
2. Chen, L., et al. 2019. Endogenous sterol intermediates of the mevalonate pathway regulate HMG-CoA reductase degradation and SREBP-2 processing. J. Lipid Res. 60: 1765-1775.
3. Xiao, J., et al. 2021. POST1/C12ORF49 regulates the SREBP pathway by promoting site-1 protease maturation. Protein Cell 12: 279-296.
4. Zong, Q., et al. 2022. Sodium butyrate alleviates deoxynivalenol-induced hepatic cholesterol metabolic dysfunction via RORγ-mediated histone acetylation modification in weaning piglets. J. Anim. Sci. Biotechnol. 13: 133.
5. Xia, P., et al. 2023. Differences of ferroptosis-related genes between White and Asian patients with liver cancer. Am. J. Cancer Res. 13: 3659-3667.
6. Yeo, X.H., et al. 2023. The effect of inhibition of receptor tyrosine kinase AXL on DNA damage response in ovarian cancer. Commun. Biol. 6: 660.
7. Martella, N., et al. 2023. Lavender essential oil modulates hepatic cholesterol metabolism in Hep G2 cells. Curr. Issues Mol. Biol. 45: 364-378.
8. Zhang, J., et al. 2024. Influenza A virus infection activates STAT3 to enhance SREBP2 expression, cholesterol biosynthesis, and virus replication. iScience 27: 110424.
9. Lu, F., et al. 2024. Dysregulation of brain cholesterol biosynthetic pathway following hypoxia ischemia in neonatal mice. Dev. Neurosci. 20: 1-17.

RESEARCH USE

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