SANTA CRUZ BIOTECHNOLOGY, INC.

Squalene synthetase (25): sc-136372

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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 transfarnesyl-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.

REFERENCES

1. Seo, J.W., et al. 2005. Overexpression of Squalene synthase in *Eleutherococcus senticosus* increases phytosterol and triterpene accumulation. Phytochemistry 66: 869-877.
2. Orenes Lorente, S., et al. 2005. Biphenylquinuclidines as inhibitors of Squalene synthase and growth of parasitic protozoa. Bioorg. Med. Chem. 13: 3519-3529.
3. Scharnagl, H., et al. 2005. New lipid-lowering agents acting on LDL receptors. Curr. Top. Med. Chem. 5: 233-242.
4. Rodrigues, J.C., et al. 2005. Antiproliferative and ultrastructural effects of BPQ-OH, a specific inhibitor of Squalene synthase, on *Leishmania amazonensis*. Exp. Parasitol. 111: 230-238.
5. Ku, B., et al. 2005. Preparation, characterization, and optimization of an *in vitro* C30 carotenoid pathway. Appl. Environ. Microbiol. 71: 6578-6583.
6. Ono, T. 2005. Studies of the FABP family: a retrospective. Mol. Cell. Biochem. 277: 1-6.
7. Xu, F., et al. 2005. Dual roles for cholesterol in mammalian cells. Proc. Natl. Acad. Sci. USA 102: 14551-14556.

CHROMOSOMAL LOCATION

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

SOURCE

Squalene synthetase (25) is a mouse monoclonal antibody raised against amino acids 12-121 of Squalene synthetase of mouse 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.

STORAGE

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

APPLICATIONS

Squalene synthetase (25) is recommended for detection of Squalene synthetase 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

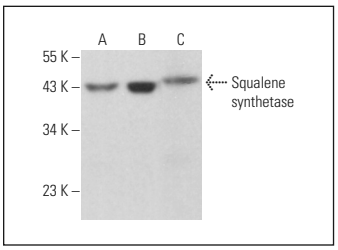
Molecular Weight of Squalene synthetase: 52 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243, NIH/3T3 whole cell lysate: sc-2210 or rat brain extract: sc-2392.

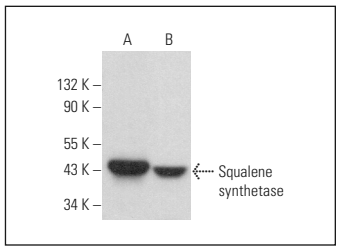
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Squalene synthetase (25): sc-136372. Western blot analysis of Squalene synthetase expression in NIH/3T3 (**A**) and 3T3-L1 (**B**) whole cell lysates and rat brain tissue extract (**C**).



Squalene synthetase (25): sc-136372. Western blot analysis of Squalene synthetase expression in C6 (**A**) and Neuro-2A (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chen, G.P., et al. 2015. Alteration of mevalonate pathway in proliferated vascular smooth muscle from diabetic mice: possible role in high-glucose-induced atherogenic process. J. Diabetes Res. 2015: 379287.

RESEARCH USE

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