SANTA CRUZ BIOTECHNOLOGY, INC.

Squalene epoxidase (H-6): sc-271651

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.

CHROMOSOMAL LOCATION

Genetic locus: SQLE (human) mapping to 8q24.13.

SOURCE

Squalene epoxidase (H-6) is a mouse monoclonal antibody raised against amino acids 275-574 mapping at the C-terminus of Squalene epoxidase of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Squalene epoxidase (H-6) is available conjugated to agarose (sc-271651 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271651 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271651 PE), fluorescein (sc-271651 FITC), Alexa Fluor® 488 (sc-271651 AF488), Alexa Fluor® 546 (sc-271651 AF546), Alexa Fluor® 594 (sc-271651 AF594) or Alexa Fluor® 647 (sc-271651 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271651 AF680) or Alexa Fluor® 790 (sc-271651 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

Squalene epoxidase (H-6) is recommended for detection of Squalene epoxidase of 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 epoxidase siRNA (h): sc-61608, Squalene epoxidase shRNA Plasmid (h): sc-61608-SH and Squalene epoxidase shRNA (h) Lentiviral Particles: sc-61608-V.

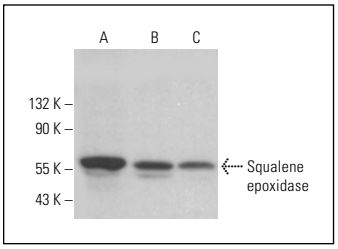
Molecular Weight of Squalene epoxidase: 55 kDa.

Positive Controls: Caco-2 cell lysate: sc-2262, Hep G2 cell lysate: sc-2227 or U-87 MG cell lysate: sc-2411.

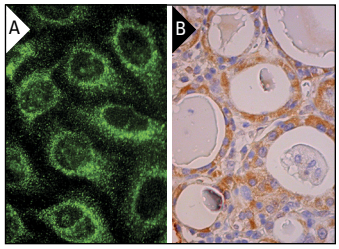
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Squalene epoxidase (H-6): sc-271651. Western blot analysis of Squalene epoxidase expression in Caco-2 (**A**), Hep G2 (**B**) and U-87 MG (**C**) whole cell lysates.



Squalene epoxidase (H-6): sc-271651. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid 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. Zembroski, A.S., et al. 2021. Proteomic characterization of cytoplasmic lipid droplets in human metastatic breast cancer cells. Front. Oncol. 11: 576326.
3. Pan, Q., et al. 2021. The ZMYND8-regulated mevalonate pathway endows YAP-high intestinal cancer with metabolic vulnerability. Mol. Cell 81: 2736-2751.e8.

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 for detailed protocols and support products.