Anti-SCD1 Antibody [A9A11-R] - BSA and Azide free

HA610063

Product Type:	Recombinant Mouse monoclonal IgG1, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB
Molecular Wt:	Predicted band size: 42 kDa
Clone number:	A9A11-R

Description: Stearoyl-CoA desaturase (Δ-9-desaturase) is an endoplasmic reticulum enzyme that catalyzes the rate-limiting step in the formation of monounsaturated fatty acids (MUFAs), specifically oleate and palmitoleate from stearoyl-CoA and palmitoyl-CoA. Oleate and palmitoleate are major components of membrane phospholipids, cholesterol esters and alkyl-diacylglycerol. In humans, the enzyme is encoded by the SCD gene. Stearoyl-CoA desaturase-1 is a key enzyme in fatty acid metabolism. It is responsible for forming a double bond in Stearoyl-CoA. This is how the monounsaturated fatty acid oleic acid is produced from the saturated fatty acid stearic-acid. A series of redox reactions, during which two electrons flow from NADH to flavoprotein cytochrome b5, then to the electron acceptor cytochrome b5 as well as molecular oxygen introduces a single double bond within a row of methylene fatty acyl-CoA substrates. The complexed enzyme adds a single double bond between the C9 and C10 of long-chain acyl-CoAs from de-novo synthesis. This enzyme belongs to the family of oxidoreductases, specifically those acting on paired donors, with O2 as oxidant and incorporation or reduction of oxygen. The oxygen incorporated need not be derived from O2 with oxidation of a pair of donors resulting in the reduction of O to two molecules of water. The systematic name of this enzyme class is stearoyl-CoA,ferrocytochrome-b5:oxygen oxidoreductase (9,10-dehydrogenating). Other names in common use include Delta9-desaturase, acyl-CoA desaturase, fatty acid desaturase, and stearoyl-CoA, hydrogen-donor:oxygen oxidoreductase. This enzyme participates in polyunsaturated fatty acid biosynthesis and ppar signaling pathway. It employs one cofactor, iron.

Immunogen:	Synthetic peptide within human SCD1 aa 310-509 / 509.
Positive control:	HepG2 cell lysate, HeLa cell lysate, HEK-293 cell lysate, SK-MEL-28 cell lysate, A375 cell lysate, A431 cell lysate, A549 cell lysate, mouse liver tissue lysate, rat liver tissue lysate.
Subcellular location:	Endoplasmic reticulum membrane.
Database links:	SwissProt: O00767 Human | P13516 Mouse | P07308 Rat
Recommended Dilutions:	
WB	1:1,000
Storage Buffer:	PBS (pH7.4).
Storage Instruction:	Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.
Purity:	Protein A affinity purified.

Images

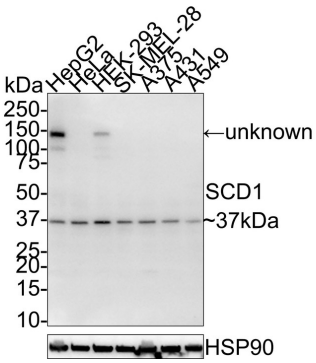

Fig1: Western blot analysis of SCD1 on different lysates with Mouse anti-SCD1 antibody (HA610063) at 1/1,000 dilution.

Lane 1: HepG2 cell lysate
Lane 2: HeLa cell lysate
Lane 3: HEK-293 cell lysate
Lane 4: SK-MEL-28 cell lysate
Lane 5: A375 cell lysate
Lane 6: A431 cell lysate
Lane 7: A549 cell lysate

Lysates/proteins at 30 µg/Lane.

Predicted band size: 42 kDa
Observed band size: 37 kDa

Exposure time: 3 minutes 10 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA610063) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1:100,000 dilution was used for 1 hour at room temperature.

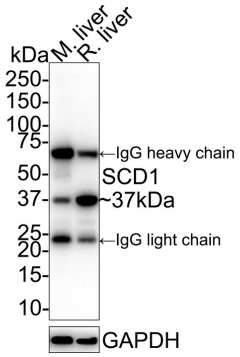

Fig2: Western blot analysis of SCD1 on different lysates with Mouse anti-SCD1 antibody (HA610063) at 1/1,000 dilution.

Lane 1: Mouse liver tissue lysate
Lane 2: Rat liver tissue lysate

Lysates/proteins at 30 µg/Lane.

Predicted band size: 42 kDa
Observed band size: 37 kDa

Exposure time: 1 minute 2 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA610063) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1:50,000 dilution was used for 1 hour at room temperature.

Background References

1. Ye Z et al. FBW7-NRA41-SCD1 axis synchronously regulates apoptosis and ferroptosis in pancreatic cancer cells. Redox Biol. 2021 Jan
2. Xuan Y et al. SCD1/FADS2 fatty acid desaturases equipoise lipid metabolic activity and redox-driven ferroptosis in ascites-derived ovarian cancer cells. Theranostics. 2022 Apr