Anti-SCD1 Antibody [PSH15-47]

HA723753

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Mouse, Rat
Applications:	WB, IHC-Fr, IHC-P, FC
Molecular Wt:	Predicted band size: 41 kDa
Clone number:	PSH15-47

Description: Stearoyl-CoA desaturase (Δ-9-desaturase or SCD-1) 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 present in two isoforms, encoded respectively by the SCD1 and SCD5 genes. 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.

Immunogen: Synthetic peptide within mouse SCD1 aa 1-50.

Positive control: Mouse liver tissue lysate, Mouse white adipose tissue lysate, Mouse brown adipose tissue lysate, Rat white adipose tissue lysate, mouse adipose tissue, mouse liver tissue, rat adipose tissue, rat liver tissue, MC/9.

Subcellular location: Endoplasmic reticulum membrane, Microsome membrane.

Database links: SwissProt: P13516 Mouse | P07308 Rat

Recommended Dilutions:

WB	1:5,000
IHC-Fr	1:500
IHC-P	1:9,000
FC	1:1,000

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

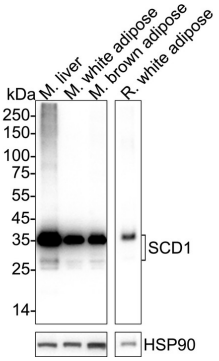

Fig1: Western blot analysis of SCD1 on different lysates with Rabbit anti-SCD1 antibody (HA723753) at 1/5,000 dilution.

Lane 1: Mouse liver tissue lysate
Lane 2: Mouse white adipose tissue lysate
Lane 3: Mouse brown adipose tissue lysate
Lane 4: Rat white adipose tissue lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 41 kDa
Observed band size: 37/28 kDa

Exposure time: 25 seconds; ECL: K1801;

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 (HA723753) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

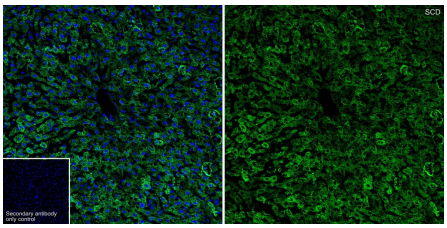

Fig2: Application: IHC-Fr

Species: Mouse

Site: liver

Sample: Frozen section

Antibody concentration: 1/500

Antigen retrieval: Not required

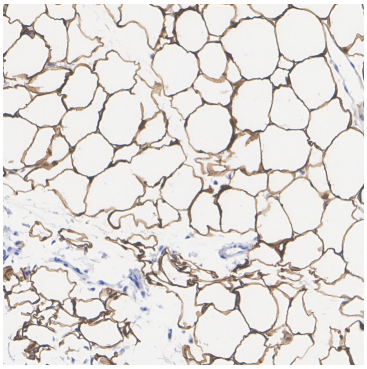

Fig3: Immunohistochemical analysis of paraffin-embedded mouse adipose tissue with Rabbit anti-SCD1 antibody (HA723753) at 1/9,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA723753) at 1/9,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

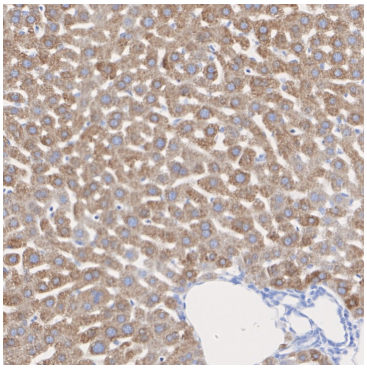

Fig4: Immunohistochemical analysis of paraffin-embedded mouse liver tissue with Rabbit anti-SCD1 antibody (HA723753) at 1/9,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA723753) at 1/9,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

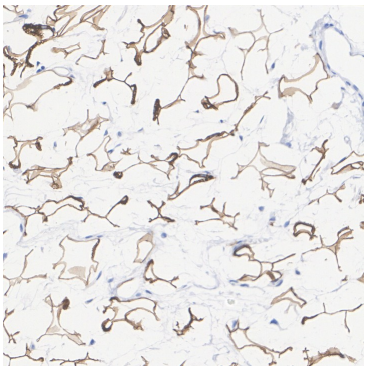

Fig5: Immunohistochemical analysis of paraffin-embedded rat adipose tissue with Rabbit anti-SCD1 antibody (HA723753) at 1/9,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA723753) at 1/9,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

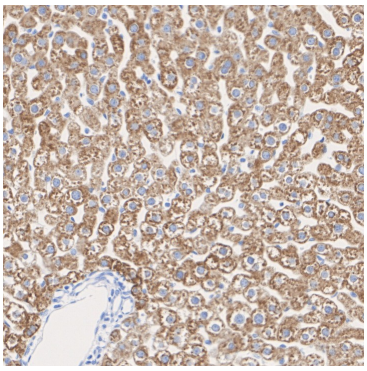

Fig6: Immunohistochemical analysis of paraffin-embedded rat liver tissue with Rabbit anti-SCD1 antibody (HA723753) at 1/9,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA723753) at 1/9,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

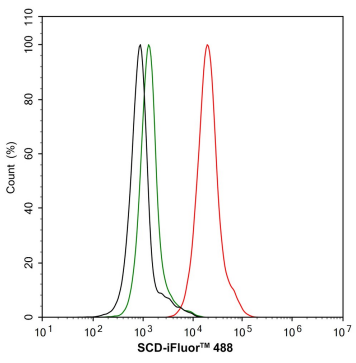

Fig7: Flow cytometric analysis of MC/9 cells labeling SCD1.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA723753, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Background References

1. 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
2. Wong TL et al. ADAR1-mediated RNA editing of SCD1 drives drug resistance and self-renewal in gastric cancer. Nat Commun. 2023 May