Human SCD-1 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF7550

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human SCD-1 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human SCD-5 and recombinant mouse SCD-1 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human SCD-1 Ala141-Gly221 Accession # O00767
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

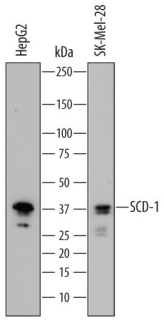
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below
Immunoprecipitation	2 µg/1 mg cell lysate	Cell lysate of HeLa human cervical epithelial carcinoma cell line
Knockout Validated	SCD-1 is specifically detected in HeLa human cervical epithelial carcinoma parental cell line but is not detectable in SCD-1 knockout HeLa cell line.	

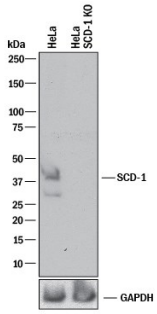
DATA

Western Blot



Detection of Human SCD-1 by Western Blot. Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line and SK-Mel-28 human malignant melanoma cell line. PVDF membrane was probed with 0.5 µg/mL of Sheep Anti-Human SCD-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7550) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for SCD-1 at approximately 38 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Knockout Validated



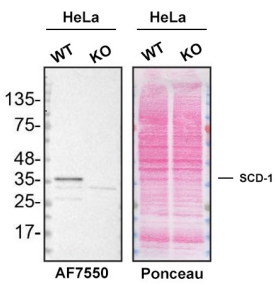
Western Blot Shows Human SCD-1 Specificity by Using Knockout Cell Line. Western blot shows lysates of HeLa human cervical epithelial carcinoma parental cell line and SCD-1 knockout HeLa cell line (KO). PVDF membrane was probed with 0.5 µg/mL of Sheep Anti-Human SCD-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7550) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for SCD-1 at approximately 41 kDa (as indicated) in the parental HeLa cell line, but is not detectable in knockout HeLa cell line. GAPDH (Catalog # AF5718) is shown as a loading control. This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475

Human SCD-1 Antibody

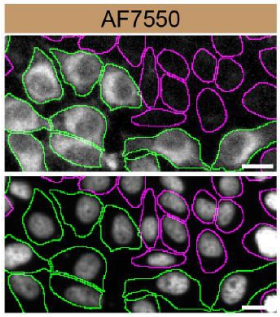
Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF7550

Knockout Validated



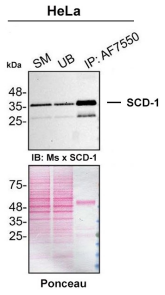
Western Blot Shows Human SCD-1 Specificity Using Knockout Cell Line. Western blot shows lysates of HeLa human cervical epithelial carcinoma parental cell line and SCD-1 knockout HeLa cell line (KO). Nitrocellulose membrane was probed with 1 µg/mL of Sheep Anti-Human SCD-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7550) followed by HRP-conjugated anti-sheep IgG Secondary Antibody. A specific band was detected for SCD-1 at approximately 36 kDa (as indicated) in the parental HeLa cell line, but is not detectable in knockout HeLa cell line. The Ponceau stained transfer of the blot is shown. This experiment was conducted under reducing conditions. Image, protocol, and testing courtesy of YCharOS Inc. See ycharos.com for additional details.

Knockout Validated



SCD-1 Specificity is Shown by Immunocytochemistry in Knockout Cell Line. HeLa WT and SCD-1 KO cells were labelled with a green or a far-red fluorescent dye, respectively. Cells were stained with Sheep Anti-Human SCD-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7550) followed by incubation with an anti-sheep Alexa-fluor 555 coupled secondary antibody (upper panel). DAPI-only counterstained cells shown on a lower panel. Acquisition of the blue (nucleus-DAPI), green (identification of WT cells), red (antibody staining) and far-red (identification of KO cells) channels was performed. Representative images of the blue and red (grayscale) channels are shown. WT and KO cells are outlined with green and magenta dashed line, respectively. Primary antibody concentration used: 1 µg/mL. Image, protocol and testing courtesy of YCharOS Inc. (ycharos.com).

Immunoprecipitation



Detection of SCD-1 by Immunoprecipitation. PMA-treated HeLa lysates were prepared and immunoprecipitation was performed using 2.0 µg of Sheep Anti-Human SCD-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7550) pre-coupled to Dynabeads protein G. Immunoprecipitated SCD-1 was detected with Mouse Anti-SCD-1 Antibody.The Ponceau stained transfer of the blot is shown. SM=4% starting material; UB=4% unbound fraction; IP=immunoprecipitate; HC=antibody heavy chain. Image, protocol and testing courtesy of YCharOS Inc. (ycharos.com).

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

SCD-1 (Stearoyl-CoA desaturase 1; also Acyl-CoA desaturase, fatty acid desaturase, and Delta-9 desaturase) is a 37-40 kDa member of the fatty acid desaturase family of enzymes. It is an ER-embedded protein that is expressed by multiple cell types, including adipocytes, hepatocytes, macrophages, endothelial and sebaceous gland cells. SCD-1 catalyzes the formation of monounsaturated fatty acids from saturated fatty acids. It does so by generating a double bond between the C9 and C10 carbons of dietary and/or endogenously synthesized fatty acids. This creates either palmitoleic or oleic acid, two fatty acids that are optimally suited for either storage or inclusion into phospholipids. It also removes a potential source of inflammation, as saturated fatty acids are known to activate TLRs with the subsequent onset of inflammation. Human SCD-1 is a 4-transmembrane (TM), 359 amino acid (aa) protein. It contains a 71 aa cytoplasmic N-terminus, followed by two TM segments (aa 72-119) and an extended cytoplasmic region (aa 120-216) that possesses three utilized Ser/Thr phosphorylation sites, two additional TM segments (aa 217-273), and a C-terminal cytoplasmic tail (aa 274-359) that contains most of the catalytic region. There is one potential isoform variant that shows a 13 aa substitution for aa 295-359. Over aa 141-221, human SCD-1 shares 95% aa sequence identity with mouse SCD-1.

Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475