

#### DESCRIPTION

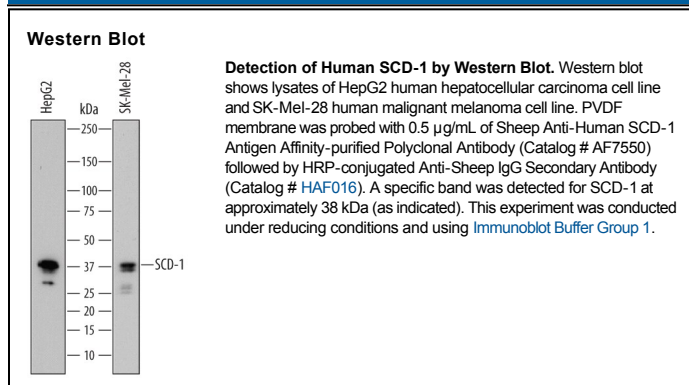
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human SCD-1 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human SCD-5 and recombinant mouse SCD-1 is observed.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified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

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.5 µg/mL	See Below

#### DATA



#### PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.2 mg/mL.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

#### 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.