SCD Protein, Human (Cell-Free, His)

Cat. No.:	HY-P702428
Synonyms:	Stearoyl-CoA desaturase; Acyl-CoA desaturase; Delta(9)-desaturase; Delta-9 desaturase; Fatty acid desaturase
Species:	Human
Source:	E. coli Cell-free
Accession:	O00767 (M1-G359)
Gene ID:	6319
Molecular Weight:	44.3 kDa

PROPERTIES

AA Sequence	MPAHLLQDDI SSSYTTTTTTI TAPPSRVLQN GGDKLETMPL YLEDDIRPDI KDDIYDPTYK DKEGPSPKVE YVWRNIILMS LLHLGALYGI TLIPTCKFYT WLWGVFYYFV SALGITAGAH RLWSHRSYKA RLPLRLFLII ANTMAFQNDV YEWARDHRAH HKFSETHADP HNSRRGFFFS HVGWLLVRKH PAVKEKGSTL DLSDLEAEKL VMFQRRYYKP GLLMMCFILP TLVPWYFWGE TFQNSVFVAT FLRYAVVLNA TWLVNSAAHL FGYRPYDKNI SPRENILVSL GAVGEGFHNY HHSFPYDYSA SEYRWHINFT TFFIDCMAAL GLAYDRKKVS KAAILARIKR TGDGNYKSG
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add 5-50% of glycerol (final concentration). Our default final concentration of glycerol is 50%. Customers could use it as reference.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	SCD (Stearoyl-CoA desaturase) is a vital enzyme that utilizes O(2) and electrons from reduced cytochrome b5 to catalyze the introduction of the first double bond into saturated fatty acyl-CoA substrates, such as palmitoyl-CoA and stearoyl-CoA. This

process results in the production of a mixture of 16:1 and 18:1 unsaturated fatty acids, playing a crucial role in lipid biosynthesis. SCD is pivotal in regulating the expression of genes associated with lipogenesis and mitochondrial fatty acid oxidation, contributing to the biosynthesis of membrane phospholipids, cholesterol esters, and triglycerides. Moreover, SCD plays a key role in maintaining body energy homeostasis, highlighting its significance in fundamental cellular processes.

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