

DGAT1 Protein, Human (Cell-Free, His, Myc)

Cat. No.:	HY-P702261
Synonyms:	Diacylglycerol O-acyltransferase 1; ACAT-related gene product 1; Acyl-CoA retinol O-fatty-acyltransferase; ARAT; Retinol O-fatty-acyltransferase; 2.3.1.76; Diglyceride acyltransferase
Species:	Human
Source:	E. coli Cell-free
Accession:	O75907 (T240-A488)
Gene ID:	8694
Molecular Weight:	37.1 kDa

PROPERTIES

AA Sequence	<p> T V S Y P D N L T Y R D L Y Y F L F A P T L C Y E L N F P R S P R I R K R F L L R R I L E M L F F T Q L Q V G L I Q Q W M V P T I Q N S M K P F K D M D Y S R I I E R L L K L A V P N H L I W L I F F Y W L F H S C L N A V A E L M Q F G D R E F Y R D W W N S E S V T Y F W Q N W N I P V H K W C I R H F Y K P M L R R G S S K W M A R T G V F L A S A F F H E Y L V S V P L R M F R L W A F T G M M A Q I P L A W F V G R F F Q G N Y G N A A V W L S L I I G Q P I A V L M Y V H D Y Y V L N Y E A P A A E A </p>
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.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. 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	DGAT1 protein functions as the catalyst for the terminal and exclusive step in triacylglycerol synthesis, employing diacylglycerol and fatty acyl CoA as substrates. Highly expressed in the epithelial cells of the small intestine, DGAT1 is crucial for the absorption of dietary fats. In the liver, it plays a role in esterifying exogenous fatty acids to glycerol, contributing to fat storage. Additionally, DGAT1 is present in female mammary glands, where it participates in the production of fat in the
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milk. The protein may be involved in very low-density lipoprotein (VLDL) assembly. Unlike DGAT2, DGAT1 is not essential for survival. In the skin, DGAT1 serves as the major acyl-CoA retinol acyltransferase (ARAT), maintaining retinoid homeostasis and preventing retinoid toxicity, thereby averting skin and hair disorders. Beyond its primary role, DGAT1 exhibits diverse acyltransferase activities, including acyl-CoA:monoacylglycerol acyltransferase (MGAT), wax monoester, and wax diester synthases. Furthermore, it demonstrates the capability to use 1-monoalkylglycerol (1-MAkG) as an acyl acceptor for the synthesis of monoalkyl-monoacylglycerol (MAMAG).

Caution: Product has not been fully validated for medical applications. For research use only.

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