

ANGPTL3/Angiopoietin-like 3 Protein, Human (sf9, His)

Cat. No.:	HY-P75580
Synonyms:	Angiopoietin-5; ANG-5; ANGPTL3; ANGPT5; UNQ153/PRO179
Species:	Human
Source:	Sf9 insect cells
Accession:	Q9Y5C1 (M1-E460)
Gene ID:	27329
Molecular Weight:	Approximately 53.3 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 50 mM PB, 150 mM NaCl, pH 7.5, 0.1% CHAPS. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
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.
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	<p>The ANGPTL3/Angiopoietin-like 3 protein functions as a hepatokine, intricately involved in the regulation of lipid and glucose metabolism. Proposed to play a role in directing energy substrates towards storage or oxidative tissues in response to food intake, ANGPTL3 stimulates plasma triglycerides (TG) by inhibiting lipoprotein lipase (LPL) activity, leading to suppressed TG clearance. This effect is achieved through the recruitment of proprotein convertases PCSK6 and FURIN to LPL, resulting in cleavage and dissociation of LPL from the cell surface. However, this regulatory function does not require ANGPTL3 proteolytic cleavage, is mediated by the N-terminal domain, and remains unaffected by GPIHBP1. Additionally, ANGPTL3 inhibits endothelial lipase, elevating plasma levels of high-density lipoprotein (HDL) cholesterol and phospholipids. By binding to adipocytes, it activates lipolysis, releasing free fatty acids and glycerol. ANGPTL3 selectively suppresses LPL in oxidative tissues, directing very low-density lipoprotein (VLDL)-TG to white adipose tissue (WAT) for storage in response to food, potentially cooperating with circulating, liver-derived ANGPTL8, and ANGPTL4 expression in WAT. It also contributes to lower plasma levels of low-density lipoprotein (LDL)-cholesterol independently of the canonical APOE and LDLR pathway. Moreover, ANGPTL3 may stimulate hypothalamic LPL activity, while in vitro, it inhibits LPL activity without effectiveness on GPIHBP1-stabilized LPL.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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