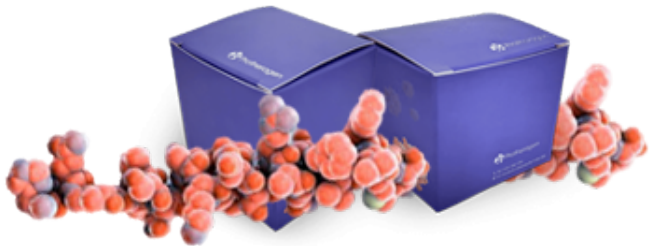
Protheragen Obesity



Human adipose triglyceride lipase (ATGL) ELISA kit (6.25-400 mIU/mL)

Cat. No.:	0126WXX-1406
Assay Type:	Quantitative sandwich ELISA
Target Species:	Human
Assay Target:	ATGL
Size:	24T; 48T; 96T

This product is for research use only and is not intended for diagnostic use.

Product Overview

Description

Human adipose triglyceride lipase (ATGL) ELISA kit (6.25-400 mIU/mL) is an ELISA - based *in vitro* research tool designed specifically for the quantitative detection of ATGL in human samples with a range of 6.25-400 mIU/mL and a minimum detectable dose (sensitivity) of <1.56 mIU/mL. The kit is highly sensitive and easy to use.

Assay Principle

This assay utilizes a quantitative sandwich enzyme immunoassay technique. An ant ibody specific for ATGL has been pre-coated onto a microplate. Standards and sam ples are pipetted into the wells, allowing any ATGL present to be captured by th e immobilized antibody. After the removal of unbound substances through a washin g step, a biotin-conjugated detection antibody specific for ATGL is introduced t o the wells. Following an additional wash, avidin-conjugated HRP is added. After a final wash to remove any remaining unbound reagents, a substrate solution is added to the wells, and color develops in direct proportion to the amount of ATG L bound in the initial step. The color development is stopped, and the intensity of the signal is measured to calculate the final concentration.

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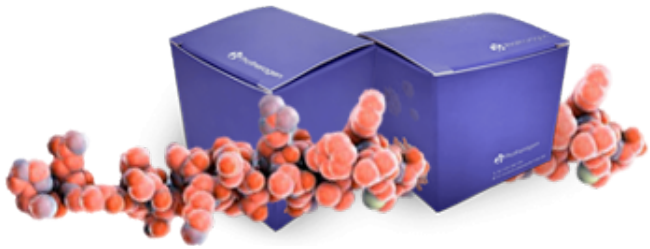

Background	ATGL, also known as PNPLA2, is the rate-limiting enzyme in the intracellular lip olysis pathway and a key member of the Triglyceride Lipase (TGL) family. ATGL pr imarily catalyzes the first step in the hydrolysis of triglycerides (TG) stored in cellular lipid droplets into diglycerides and free fatty acids (FFA). In obes ity research, ATGL occupies a central position as it directly governs energy sto rage and mobilization. Dysregulation of ATGL activity leads to ectopic TG accumu lation in non-adipose tissues such as the liver and muscle, triggering lipotoxic ity and associated pathological responses. Furthermore, ATGL activity influences FFA release, thereby affecting systemic energy balance and adipose tissue infla mmation. Consequently, ATGLs represent key targets for understanding lipolysis d ysregulation and obesity-related metabolic complications.
Synonyms	PNPLA2; PEDF-R; TTS2; Pigment epithelium-derived factor; Transport-secretion pro tein 2; Patatin like phospholipase domain containing protein 2; Calcium-independ ent phospholipase A2; Desnutrin
Formula Weight	55,316 Da
Applications	Human adipose triglyceride lipase (ATGL) ELISA kit (6.25-400 mIU/mL) is used to quantify ATGL in serum, urine, and tissue homogenates of humans, providing data to support research in a wide range of areas, including signal transduction, obe sity, and others.
Research Area	Signal transduction; Obesity

Specification

Sample Type	Serum; Urine; Tissue homogenates
Detection Range	6.25-400 mIU/mL
Sensitivity	<1.56 mIU/mL
Precision (Intra-assay)	CV<10%
Precision (Inter-assay)	CV<12%
Cross-reactivity	No significant cross-reactivity or interference was observed.
Storage	Store at 2-8°C.

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