abcam

Product datasheet

Human ATGL ELISA Kit ab270890

Recombinant SimpleStep ELISA®

4 Images

Overview

Product name Human ATGL ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Extract	8			3.8%

Inter-assay

Sample	n	Mean	SD	CV%
Extract	3			11.9%

Sample type Cell culture extracts

Assay type Sandwich (quantitative)

Sensitivity 40.78 pg/ml

Range 218.75 pg/ml - 14000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture extracts	86	82% - 93%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Human

Product overview Human ATGL ELISA kit (ab270890) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of ATGL protein in human cell and tissue cullture extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate human ATGL with 40.78 pg/mL sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is

recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

-Single-wash protocol reduces assay time to 90 minutes or less
-High sensitivity, specificity and reproducibility from superior antibodies
-Fully validated in biological samples
-96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate (ab203359) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

Notes

Human Adipose Triglyceride Lipase (ATGL) catalyzes the initial step in triglyceride hydrolysis in both adipocyte and non-adipocyte lipid droplets. ATGL regulates adiposome size and may be involved in the degradation of adiposomes. ATGL exhibits acylglycerol transaclase activity and may coordinate with LIPE/HLS within the lipolytic cascade. ATGL is also thought to play an important role in energy homeostasis and a role in the response of the organism to starvation. ATGL enhances the hydrolysis of triglycerides and providing free fatty acids to other tissues to be oxidized in situations of energy depletion. ab270890 was designed against the luminal fragment of the ATGL protein. Human ATGL protein sequence identity as follows: mouse, rat, cow, monkey are 90%, 90%, 84% and 92%, respectively.

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions

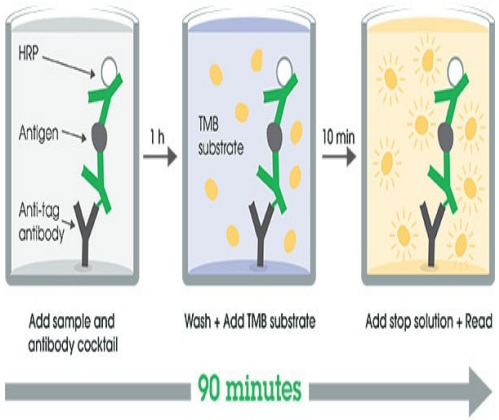
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Human ATGL Capture Antibody	1 x 600µl
10X Human ATGL Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent 4BI	1 x 6ml
Human ATGL Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit

Components	1 x 96 tests
Sample Diluent NS (ab193972)	1 x 12ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

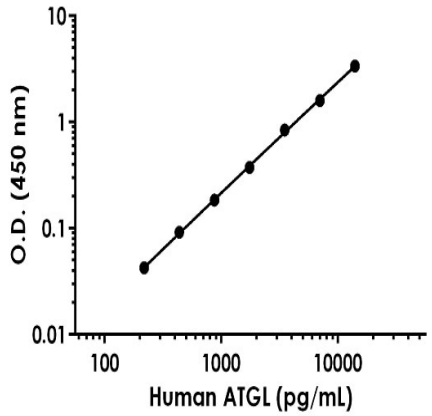
Function	Catalyzes the initial step in triglyceride hydrolysis in adipocyte and non-adipocyte lipid droplets. Also has acylglycerol transacylase activity. May act coordinately with LIPE/HLS within the lipolytic cascade. Regulates adiposome size and may be involved in the degradation of adiposomes. May play an important role in energy homeostasis. May play a role in the response of the organism to starvation, enhancing hydrolysis of triglycerides and providing free fatty acids to other tissues to be oxidized in situations of energy depletion.
Tissue specificity	Highest expression in adipose tissue. Also detected in heart, skeletal muscle, and portions of the gastrointestinal tract. Detected in normal retina and retinoblastoma cells. Detected in retinal pigment epithelium and, at lower intensity, in the inner segments of photoreceptors and in the ganglion cell layer of the neural retina (at protein level).
Pathway	Glycerolipid metabolism; triacylglycerol degradation.
Involvement in disease	Note=Genetic variations in PNPLA2 may be associated with risk of diabetes mellitus type 2. Defects in PNPLA2 are the cause of neutral lipid storage disease with myopathy (NLSDM) [MIM:610717]; also known as neutral lipid storage disease without ichthyosis. NSLDM is a neutral lipid storage disorder (NLSD) with myopathy but without ichthyosis. NLSDs are characterized by the presence of triglyceride-containing cytoplasmic droplets in leukocytes and in other tissues, including bone marrow, skin, and muscle. Individuals with NLSDM did not show obesity, in spite of a defect in triglyceride degradation in fibroblasts and in marked triglyceride storage in liver, muscles, and other visceral cells.
Sequence similarities	Contains 1 patatin domain.
Developmental stage	Induced during differentiation of primary preadipocytes to adipocytes. Expression increased from fetal to adult in retinal pigment epithelium.
Cellular localization	Lipid droplet. Cell membrane.

Images



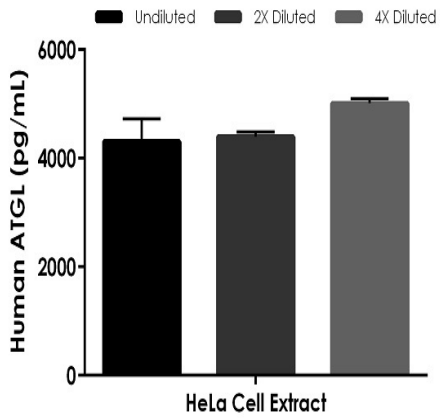
SimpleStep ELISA Protocol Diagram

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



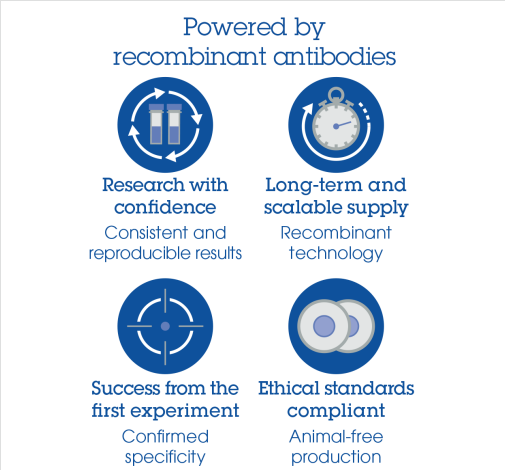
Example of human ATGL standard curve in 1X Cell Extraction Buffer PTR.

The ATGL standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



Interpolated concentrations of native ATGL in human HeLa cell extract based on a 1,500 µg/mL extract load.

The concentrations of ATGL were measured in duplicate and interpolated from the ATGL standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean ATGL concentration was determined to be 4572.12 pg/mL in HeLa cell extract.



Sandwich ELISA - Human ATGL ELISA Kit (ab270890)

To learn more about the advantages of recombinant antibodies see here.

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