

Product Information



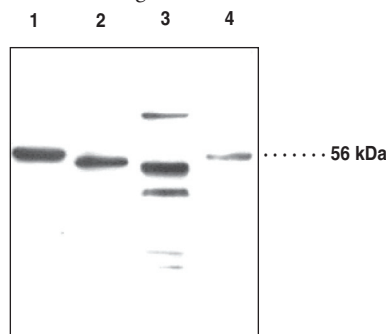
Adipose Triglyceride Lipase Polyclonal Antibody

Item No. 10006409 • Lot No. XXXXX

Synonyms: ATGL, Desnutrin, phospholipase A₂ζ
Supplied as: This vial contains *lot specific* µg of peptide affinity-purified IgG, lyophilized from TBS pH 7.4
Host: Rabbit
Antigen: Synthetic peptide from human ATGL amino acids 382-400; the antigen alignment with other known sequences is as follows:
Human KRKLGRHLP SRLPEQVELR
Mouse KRKLG d HLP SRL s EQVELR
Cross-reactivity: (+) Human, murine, and rat ATGL; other species not tested
Stability: ≥1 year at -20°C
Applications: Immunohistochemistry (paraffin-embedded sections) and western blot (WB). Recommended starting dilution for western blot - *lot specific* µg/ml. Other applications were not attempted and therefore optimal working dilutions should be determined empirically.

Triglycerides are the most efficient form of energy storage in mammalian adipose tissue during times of caloric excess. Adipose triglyceride lipase (ATGL) is one of the key enzymes involved in the mobilization of fatty acids from triglyceride stores in adipose tissue, catalysing the conversion of triacylglycerols to diacylglycerols.¹ Inhibition of ATGL markedly decreases total adipose acyl-hydrolase activity, and thus may be a potential drug target for the diabetic pathology.¹ ATGL mRNA is detected in a wide range of tissues including adipose, lung, skeletal muscle, testis, heart, brain, and kidney, with adipose tissue expressing the highest level.²

Human ATGL is 504 amino acids in length with an estimated molecular weight of 55.2 kDa. Cayman's ATGL polyclonal antibody detects the enzyme at 56 kDa by western blot from tissues and cells such as brown fat, liver, murine macrophages, and HepG2 cells.



Lane 1: Human liver microsome (50 µg)
Lane 2: HepG2 cell lysate (50 µg)
Lane 3: Rat brown fat homogenate (50 µg)
Lane 4: Mouse liver 100,000 x g pellet (50 µg)

Laboratory Procedures

Immunoperoxidase staining procedure

A. Paraffin sections

1. Deparaffinize sections 3 times with xylene or xylene substitute, 5 minutes each.
2. Rehydrate sections 2 times with 100% ethanol, 5 minutes each, followed by 95%, 90%, 80%, 70%, and 50% ethanol, 5 minutes each.
3. Rinse sections in distilled water for 5 minutes.
4. Block endogenous peroxidase activity with 0.3% H₂O₂ in water (use methanol instead of water in case of strong endogenous peroxidase activity) for 15 minutes.
5. Wash sections 3 times in TBS containing 0.1% Tween 20 (TBST), pH 7.4, 5 minutes each.
6. Incubate sections with 5% normal serum (same species as the host of the secondary antibody) for 30 minutes.
7. Rinse sections 3 times with TBST, pH 7.4, 5 minutes each.
8. Incubate sections with a 4 µg/ml of ATGL polyclonal antibody (recommended starting concentration; optimal dilution to be determined by end user) overnight at room temperature.
9. Wash sections 3 times in TBST, pH 7.4, 5 minutes each.
10. Incubate sections for 30 minutes with biotinylated secondary antibody, using a dilution as recommended by the provider.
11. Wash sections 3 times in TBST, pH 7.4, 5 minutes each.
12. Incubate sections for 30 minutes with ABC reagent, using a dilution as recommended by the provider.
13. Wash sections 3 times in TBST, pH 7.4, 5 minutes each.

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any **obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our **Warranty and Limitation of Remedy** located on our website and in our catalog.

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14. Incubate sections in peroxidase substrate solution. Check staining under a microscope frequently. When desired staining intensity is achieved, rinse sections with distilled water thoroughly.
15. Counter stain sections if desired. Rinse sections thoroughly after counter stain.
16. Dehydrate sections through 50%, 70%, 80%, 90%, 95%, and 100% ethanol (2 times) for 5 minutes each.
17. Clear sections 3 times with xylene or xylene substitute, 5 minutes.
18. Mount sections with coverslips.

B. Fresh Frozen Sections

1. After briefly fixing sections with an appropriate fixative (e.g., 10% formaldehyde for 2 minutes), wash sections 3 times with TBS, pH 7.4, 5 minutes each.
2. Follow steps 4-18 of the procedure recommended for paraffin section.

References

1. Zimmermann, R., Strauss, J.G., Haemmerle, G., *et al.* Fat mobilization in adipose tissue is promoted by adipose triglyceride lipase. *Science* **306**, 1383-1386 (2004).
2. Villena, J.A., Roy, S., Sarkadi-Nagy, E., *et al.* Desnutrin, an adipocyte gene encoding a novel patatin domain-containing protein, is induced by fasting and glucocorticoids. Ectopic expression of desnutrin increases triglyceride hydrolysis. *J. Biol. Chem.* **279**(45), 47066-47075 (2004).

Related Products

Endothelial Lipase (human) Polyclonal Antibody - Item No. 100030 • PPAR γ Polyclonal Antibody - Item No. 101700 • PPAR α Polyclonal Antibody - Item No. 101710 • PPAR δ Polyclonal Antibody - Item No. 101720 • Hormone Sensitive Lipase Polyclonal Antibody - Item No. 10006371

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