

# ATGL (K-14): sc-50221

## BACKGROUND

The Adiponutrin family members, which have been implicated in obesity and diabetes, consist of Adiponutrin (ADPN), GS1, GS2, GS2-like, PNPLA1 and adipose triglyceride lipase (ATGL), also designated Desnutrin or Patatin-like phospholipase domain-containing protein 2 (PLNPA2). ATGL is a 486 amino acid protein that is highly expressed in mouse and human adipose tissue. It contains a highly conserved 180 amino acid N-terminal patatin domain common to plant acyl-hydrolases with a glycine-rich region, an aspartate active site motif and an active serine hydrolase motif. Along with hormone-sensitive lipase, ATGL catabolizes stored triglycerides in mammalian adipose tissue. The lipase activity of ATGL is dependent upon the presence of an activated serine residue. ADPN and ATGL are oppositely regulated by Insulin, where upregulation of ATGL and downregulation of ADPN occurs when fasting.

## REFERENCES

1. Zimmermann, R., et al. 2004. Fat mobilization in adipose tissue is promoted by adipose triglyceride lipase. *Science* 306: 1383-1386.
2. Langin, D., et al. 2005. Adipocyte lipases and defect of lipolysis in human obesity. *Diabetes* 54: 3190-3197.

## CHROMOSOMAL LOCATION

Genetic locus: PNPLA2 (human) mapping to 11p15.5; Pnpla2 (mouse) mapping to 7 F5.

## SOURCE

ATGL (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ATGL of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-50221 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ATGL (K-14) is recommended for detection of ATGL of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). ATGL (K-14) is also recommended for detection of ATGL in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for ATGL siRNA (h): sc-60223, ATGL siRNA (m): sc-60224, ATGL shRNA Plasmid (h): sc-60223-SH, ATGL shRNA Plasmid (m): sc-60224-SH, ATGL shRNA (h) Lentiviral Particles: sc-60223-V and ATGL shRNA (m) Lentiviral Particles: sc-60224-V.

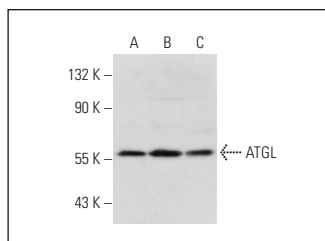
Molecular Weight of ATGL: 55 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287, HeLa whole cell lysate: sc-2200 or Y79 cell lysate: sc-2240.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



ATGL (K-14): sc-50221. Western blot analysis of ATGL expression in SJRH30 (A), Y79 (B) and HeLa (C) whole cell lysates.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **ATGL (F-7): sc-365278**, our highly recommended monoclonal alternative to ATGL (K-14).