

# PNPLA1 (Y-15): sc-49708

## BACKGROUND

The Adiponutrin family consists of Adiponutrin (ADPN), adipocyte triglyceride lipase (ATGL, also designated desnutrin), GS1, GS2, GS2-like and patatin-like phospholipase domain containing 1 (PNPLA1). Several members of the Adiponutrin family are implicated in obesity and diabetes. PNPLA1 is a 446 amino acid protein that has been detected along with 9 other PNPLAs using bioinformatic approaches. Gene sequencing reveals a conservation of the patatin fold and lipase motif in all human PNPLAs. Several PNPLAs are differentially regulated during cell growth and differentiation. PNPLA1 is usually expressed at very low levels and is induced in response to specific environmental signals. PNPLA1 may function as an integral membrane protein that is regulated by cAMP/cGMP levels.

## REFERENCES

1. Strippoli, P., Petrini, M., Lenzi, L., Carinci, P. and Zannotti, M. 2000. The murine DSCR1-like (down syndrome candidate region 1) gene family: conserved synteny with the human orthologous genes. *Gene* 257: 223-232.
2. Villena, J.A., Roy, S., Sarkadi-Nagy, E., Kim, K.H. and Sul, H.S. 2004. 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: 47066-47075.
3. Kershaw, E.E., Hamm, J.K., Verhagen, L.A., Peroni, O., Katic, M. and Flier, J.S. 2005. Adipose triglyceride lipase: function, regulation by Insulin, and comparison with adiponutrin. *Diabetes* 55: 148-157.
4. Lake, A.C., Sun, Y., Li, J.L., Kim, J.E., Johnson, J.W., Li, D., Revett, T., Shih, H.H., Liu, W., Paulsen, J.E. and Gimeno, R.E. 2005. Expression, regulation and triglyceride hydrolase activity of Adiponutrin family members. *J. Lipid Res.* 46: 2477-2487.
5. Wilson, P.A., Gardner, S.D., Lambie, N.M., Commans, S.A. and Crowther, D.J. 2006. Characterization of the human patatin-like phospholipase family. *J. Lipid Res.* 47: 1940-1949.

## CHROMOSOMAL LOCATION

Genetic locus: PNPLA1 (human) mapping to 6p21.31; Pnpla1 (mouse) mapping to 17 A3.3.

## SOURCE

PNPLA1 (Y-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PNPLA1 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-49708 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

PNPLA1 (Y-15) is recommended for detection of PNPLA1 (patatin-like phospholipase domain containing 1) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PNPLA1 (Y-15) is also recommended for detection of PNPLA1 (patatin-like phospholipase domain containing 1) in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PNPLA1 siRNA (h): sc-61373, PNPLA1 siRNA (m): sc-61374, PNPLA1 shRNA Plasmid (h): sc-61373-SH, PNPLA1 shRNA Plasmid (m): sc-61374-SH, PNPLA1 shRNA (h) Lentiviral Particles: sc-61373-V and PNPLA1 shRNA (m) Lentiviral Particles: sc-61374-V.

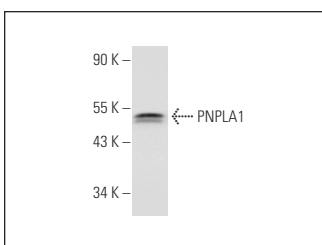
Molecular Weight of PNPLA1: 48 kDa.

Positive Controls: COLO205 whole cell lysate.

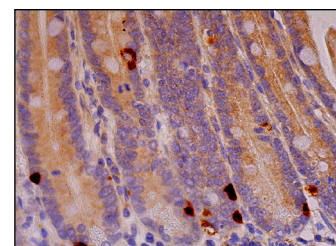
## RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



PNPLA1 (Y-15): sc-49708. Western blot analysis of PNPLA1 expression in COLO 205 whole cell lysate.



PNPLA1 (Y-15): sc-49708. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

## STORAGE

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