

## Product datasheet

### anti-Perilipin 2 (N-terminus aa 6-27) guinea pig polyclonal, serum

#### Short overview

<b>Cat. No.</b>	GP47
<b>Quantity</b>	100 µl

#### Product description

<b>Host</b>	Guinea pig
<b>Antibody Type</b>	Polyclonal
<b>Immunogen</b>	Synthetic peptide (N-terminal aa 6-27 of human adipophilin / PLIN2)
<b>Formulation</b>	Contains 0.09% sodium azide and 0.5% BSA
<b>UniprotID</b>	Q99541 (Human), P43883 (Mouse)
<b>Synonym</b>	Perilipin-2, Adipophilin, Adipose differentiation-related protein, ADRP, PLIN2, ADFP
<b>Note</b>	Centrifuge prior to opening
<b>Conjugate</b>	Unconjugated
<b>Purification</b>	Stabilized antiserum
<b>Storage</b>	Short term at 2-8°C; long term storage in aliquots at -20°C; avoid freeze/thaw cycles
<b>Intended use</b>	Research use only
<b>Application</b>	ICC/IF, IHC, WB
<b>Reactivity</b>	Human, Mouse

#### Applications

<b>Immunocytochemistry (ICC)</b>	1:50-1:100
<b>Immunohistochemistry (IHC) - frozen</b>	1:100
<b>Immunohistochemistry (IHC) - paraffin</b>	1:100 (microwave treatment recommended)
<b>Western Blot (WB)</b>	1:500-1:2,000

#### Background

Adipophilin / ADRP / PLIN2 is a ubiquitous component of lipid droplets. It has been found in milk fat globule membranes and on the surface of lipid droplets in various cultured cell lines (Heid et al. 1998; Targett-Adams et al. 2003); inducible by etomoxir. Enhanced expression of Adipophilin / ADRP / PLIN2 is a useful marker for pathologies characterized by increased lipid droplet accumulation. Such diseases include atheroma, steatosis, obesity and certain cases of liposarcoma. It also seems to be a potent marker for atherosclerosis. ADRP can also be used to study the virus entry of e.g. HCV via lipid droplets (Hope et al. 2002). Polypeptide reacting: Adipophilin / ADRP / PLIN2, MW 48,100 (calculated from aa sequence data); apparent Mr 52,000 (after SDS-PAGE); pI 6.72.

Tissue localization: Adipophilin / PLIN2 is positively detected in the glandular cells of lactating mammary gland (ductal cells are negative), zona fasciculata of the adrenal gland, Sertoli cells of the testis, and in fat-accumulating hepatocytes of alcoholic cirrhotic fatty liver; adipocytes are negative. Also positively stained are lipid-storing CD 68-positive macrophages.

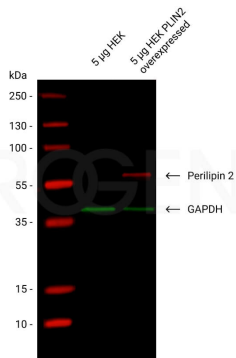
Reactivity on cultured cell lines: PLC.

Targett-Adams, P. et al. Live Cell Analysis and Targeting of the Lipid Droplet-binding Adipocyte Differentiation-related Protein. *J. Biol. Chem.* 278, 15998-16007 (2003).

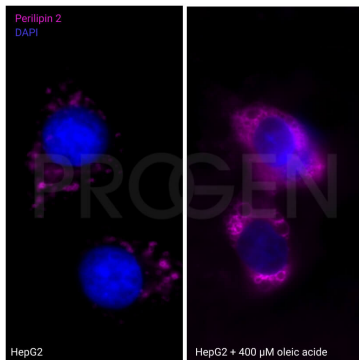
Hope, R. G., Murphy, D. J. & McLauchlan, J. The Domains Required to Direct Core Proteins of Hepatitis C Virus and GB Virus-B to Lipid Droplets Share Common Features with Plant Oleosin Proteins. *J. Biol. Chem.* 277, 4261-4270 (2002).

Heid, H. W., Moll, R., Schwetlick, I., Rackwitz, H. R. & Keenan, T. W. Adipophilin is a specific marker of lipid accumulation in diverse cell types and diseases. *Cell Tissue Res.* 294, 309-21 (1998).

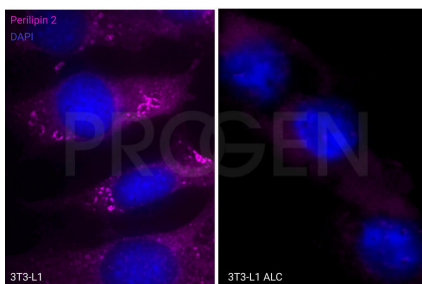
## Product images



Western blot analysis of HEK lysate with anti-Perilipin 2 antibody (Cat. No. GP47). Western blot analysis was performed on 5 µg of HEK lysate either untreated or transfected causing overexpression of Perilipin 2. Cells were lysed with RIPA buffer. The PVDF membrane was blocked with 5% dry milk in PBST (PBS + 0.1% Tween 20) for 1 h at RT. The primary antibodies anti-Perilipin 2 (Cat. No. GP47) and anti-GAPDH were diluted in blocking buffer (1:500 Anti-Perilipin, 1:1,500 anti-GAPDH) and incubated at 4°C over-night. The secondary antibodies donkey anti-guinea pig A647 and goat anti-mouse A488 were also diluted in blocking buffer (both 1:300) and incubated for 1 h at RT. The bands were visualized by fluorescent detection.



Immunofluorescence analysis of HepG2 cells with anti-Perilipin 2 antibody (Cat. No. GP47). HepG2 cells were analysed either untreated or treated with 400 µM oleic acid over-night to incorporate lipid droplets. Fixation was performed using 3% paraformaldehyde for 15 min at RT. Cells were blocked with 5% BSA in PBST (PBS + 0.1% Tween 20) for 1 h at RT and permeabilized with 0.3% Triton-x 100 in PBS for 10 min at RT. The primary antibody anti-Perilipin 2 guinea pig polyclonal (Cat. No. GP47) was 1:100 diluted in blocking buffer and incubated over-night at 4°C. The secondary antibody donkey anti-guinea pig AF647 was also diluted in blocking buffer (antibody concentration 3.75 µg/ml) and incubated for 30 min at 37°C and 30 min at RT. DNA was stained with DAPI in blue.



Immunofluorescence analysis of undifferentiated 3T3-L1 cells and differentiated 3T3-L1 ALC (= adipocyte like cells) cells with anti-Perilipin 2  
PROGEN Biotechnik GmbH | Maaßstraße 30 | D-69123 Heidelberg

Tel.: +49 (0) 6221 8278-0 | Fax: +49 (0) 6221 8278-24 | Email: info@progen.com | Web: www.progen.com

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antibody (Cat. No. GP47). The cells were differentiated using medium containing 0.5 mM IBMX, 1 $\mu$ M dexamethanosone and 10  $\mu$ g/ml insulin. Fixation was performed using 3% paraformaldehyde for 15 min at RT. Cells were blocked with 5% BSA in PBST (PBS + 0.1% Tween 20) for 1 h at RT and permeabilized with 0.3% Triton-x 100 in PBS for 10 min at RT. The primary antibody anti-Perilipin 2 guinea pig polyclonal (Cat. No. GP47) was 1:100 diluted in blocking buffer and incubated over-night at 4°C. The secondary antibody donkey anti-guinea pig AF647 was also diluted in blocking buffer (antibody concentration 3.75  $\mu$ g/ml) and incubated for 30 min at 37°C and 30 min at RT. DNA was stained with DAPI in blue.

## References

Publication	Species	Application
<a href="#">Rocha, N. et al. Human biallelic MFN2 mutations induce mitochondrial dysfunction, upper body adipose hyperplasia, and suppression of leptin expression. Elife 6, (2017).</a>	human	WB
<a href="#">Fan, B., Dun, S.-H., Gu, J.-Q., Guo, Y. &amp; Ikuyama, S. Pycnogenol Attenuates the Release of Proinflammatory Cytokines and Expression of Perilipin 2 in Lipopolysaccharide-Stimulated ... PLoS One 10, e0137837 (2015).</a>	mouse	WB
<a href="#">Heid, H. et al. Lipid droplets, perilipins and cytokeratins--unravelling liaisons in epithelium-derived cells. PLoS One 8, (2013).</a>	human	WB,ICC-IF