Product datasheet

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

Short overview

Cat. No.	GP47
Quantity	100 µl

Product description

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

Applications

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

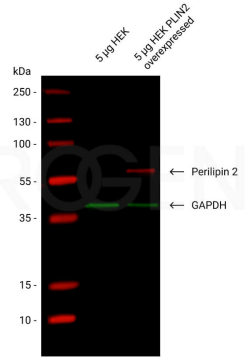
Background

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.

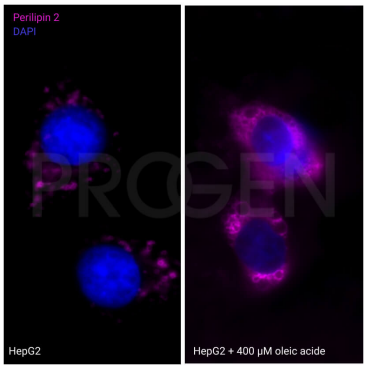
Tissue localization: Adipophilin / PLIN2 is positively detected in the glandular cells of lactating mammary gland (ductal cells are negative), zona fasciculata of the adrenal gland, Sertoli cells of the testis, and in fat-accumulating hepatocytes of alcoholic cirrhotic fatty liver; adipocytes are negative.Also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

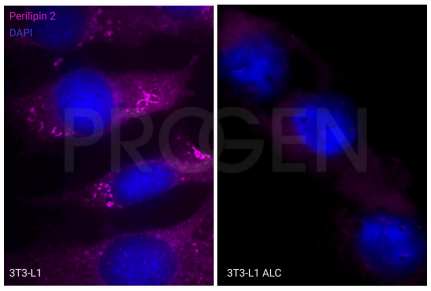
Product images



Western blot analysis of HEK lysate with anti-Perilipin 2 antibody (Cat. No. GP47). Western blot analysis was performed on 5 ug 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 uM oleic acide 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 ug/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

antibody (Cat. No. GP47). The cells were differentiated using medium containing 0.5 mM IBMX, 1uM dexamethanosone and 10 ug/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 ug/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
Rocha, N. et al. Human biallelic MFN2 mutations induce mitochondrial dysfunction, upper body adipose hyperplasia, and suppression of leptin expression. Elife 6, (2017).	human	WB
Fan, B., Dun, S.-H., Gu, J.-Q., Guo, Y. & Ikuyama, S. Pycnogenol Attenuates the Release of Proinflammatory Cytokines and Expression of Perilipin 2 in Lipopolysaccharide-Stimulated ... PLoS One 10, e0137837 (2015).	mouse	WB
Heid, H. et al. Lipid droplets, perilipins and cytokeratins--unravelled liaisons in epithelium-derived cells. PLoS One 8, (2013).	human	WB,ICC-IF