Product datasheet

anti-Perilipin 2 (N-terminus aa 1-16) guinea pig polyclonal, serum

Short overview

Cat. No.	GP46
Quantity	100 µl

Product description

Host	Guinea pig
Antibody Type	Polyclonal
Immunogen	Synthetic peptide (N-terminal aa 1-16 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, IHC, WB
Reactivity	Human, Mouse

Applications

Immunocytochemistry (ICC)	1:50-1:100
Immunohistochemistry (IHC) - paraffin	1:50-1:150 (microwave treatment recommended)
Western Blot (WB)	1:500-1:3,000

Background

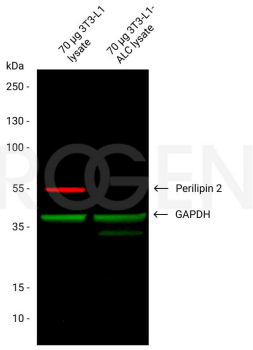
Adipophilin / ADRP / PLIN2 is a ubiquitous component of lipid droplets. It has been found in milk fat globule membranes and on the surface of lipid droplets in various cultured cell lines (Heid et al. 1998); inducible by etomoxir.Enhanced expression of Adipophilin / ADRP / PLIN2 is a useful marker for 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 immunolocalization: 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.

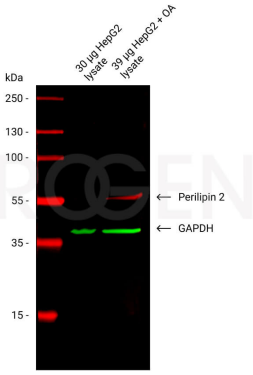
Hope, R. G., Murphy, D. J. & McLauchlan, J. The Domains Required to Direct Core Proteins of Hepatitis C Virus and GB Virus-B to Lipid Droplets

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).

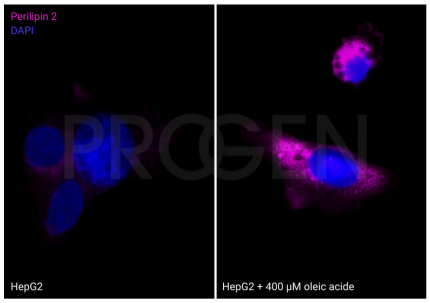
Product images



Western blot analysis of undifferentiated 3T3-L1 and differentiated 3T3-L1 ALC (= adipocyte like cells) cell lysate with anti-Perilipin 2 antibody (Cat. No. GP46). The cells were differentiated using medium containing 0.5 mM IBMX, 1 uM dexamethanosone and 10 ug/ml insulin and lysed with RIPA buffer. Western blot analysis was performed on 70 ug of cell lysate. 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. GP46) 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.



Western blot analysis of HepG2 lysate with anti-Perilipin 2 antibody (Cat. No. GP46). Western blot analysis was performed on 30 ug of HepG2 lysate and 39 ug HepG2 + OA cells. The cells were previously treated with 400 ug oleic acid (OA) if indicated. 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. GP46) 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. GP46). 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. GP46) 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
Ogrodnik, M. et al. Obesity-Induced Cellular Senescence Drives Anxiety and Impairs Neurogenesis. Cell.Metab. 29, 1061-1077.e8 (2019)	mouse	ICC-IF
Copeland, C. et al. A disease-associated frameshift mutation in caveolin-1 disrupts caveolae formation and function through introduction of a de novo ER retention signal. Mol.Biol.Cell. 28, 3095-3111 (2017).	mouse	ICC-IF
Heid, H. et al. Lipid droplets, perilipins and cytokeratins--unravelled liaisons in epithelium-derived cells. PLoS One 8, (2013).	human	WB,ICC-IF