Product datasheet

anti-Perilipin 2 (C-terminus) guinea pig polyclonal, serum

Short overview

Cat. No.	GP41
Quantity	100 µl

Product description

Host	Guinea pig
Antibody Type	Polyclonal
Immunogen	Synthetic peptide (C-terminal aa 423 - 437 of human adipophilin)
Formulation	Contains 0.09% sodium azide
UniprotID	Q99541 (Human)
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

Applications

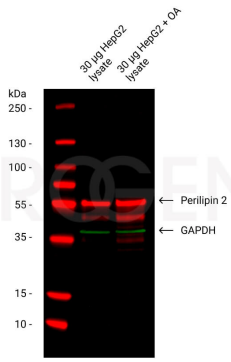
Immunocytochemistry (ICC)	1:100
Immunohistochemistry (IHC) - frozen	1:100 (for staining protocols see ref. Ohsaki et al. 2005)
Immunohistochemistry (IHC) - paraffin	1:100 (for staining protocol see Straub et al. 2008)
Western Blot (WB)	1:500-1:2,000

Background

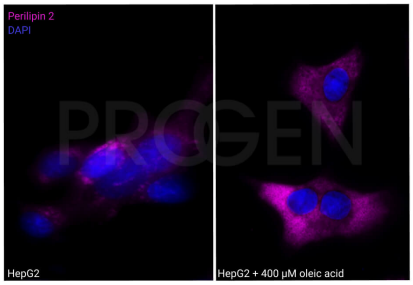
Adipophilin/ ADRP/ PLIN2 is a ubiquitous component of lipid droplets. It has been found in milk fat globule membranes and on the surface of lipid droplets in various cultured cell lines (see Heid et al. 1998 & 2013; for review see Targett-Adams et al. 2003); inducible by etomoxir.Enhanced expression 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 via lipid droplets (see 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 6.72Tissue Immunolocalization: Adipophilin 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.

Heid, H. et al. Lipid droplets, perilipins and cytokeratins--unravelled liaisons in epithelium-derived cells. PLoS One 8, e63061 (2013). 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).

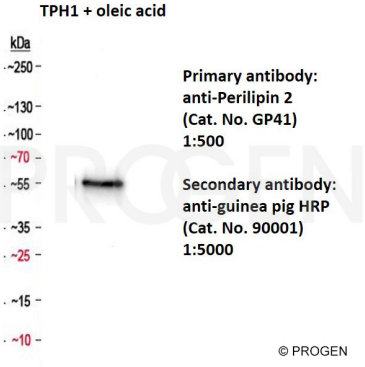
Product images



Western blot analysis of HepG2 cell lysate with anti-Perilipin 2 antibody. Western blot analysis was performed on 30 ug HepG2 lysate and 30 ug HepG2 + OA lysate. Cells were previously treated with 400 uM 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 (C-terminus) guinea pig polyclonal (Cat. No. GP41) and anti-GAPDH were diluted in blocking buffer (1:500 anti-Perilipin, 1.2 ug/ml anti-GAPDH, Cat. No. 690975) 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. HepG2 cells were analysed either untreated or treated with 400 uM oleic acid over-night to incorporate lipid droplets. Fixation was performed using 3% paraformaldehyde for 10 min at RT. Cells were blocked with 5% BSA in PBST 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 (C-terminus) guinea pig polyclonal (Cat. No. GP41) was diluted in blocking buffer (1:100) 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.



WB with anti-Perilipin 2 antibody (Cat. No. GP41, 1:500), THP1 cells treated with oleic acid whole cell lysate (8 ug)

References

Publication	Species	Application
Sastre, C. et al. Genetic deletion or TWEAK blocking antibody administration reduce atherosclerosis and enhance plaque stability in mice. J. Cell. Mol. Med. 18, 721-734 (2014)	mouse	IHC
Heid, H. et al. On the formation of lipid droplets in human adipocytes: the organization of the perilipin-vimentin cortex. PLoS One 9, e90386 (2014).	human	WB,ICC-IF
Straub, B. K. et al. Adipophilin/perilipin-2 as a lipid droplet-specific marker for metabolically active cells and diseases associated with metabolic dysregulation. Histopathology 62, 617-631 (2013).	human	IHC (frozen)
Heid, H. et al. Lipid droplets, perilipins and cytokeratins--unravelled liaisons in epithelium-derived cells. PLoS One 8, (2013).	human	WB,ICC-IF
Timmers, S. et al. Augmenting muscle diacylglycerol and triacylglycerol content by blocking fatty acid oxidation does not impede insulin sensitivity. Proc. Natl. Acad. Sci. USA 109, 11711-11716 (2012).	mouse	WB