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PLIN2 (Phospho-Ser159) Antibody

#58042

Number: 58042

Amount: 100μg/100μl

Form of Antibody: Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl,0.02% sodium azide and 50% glycerol.

Storage/Stability: Store at -20℃/1 year

Immunogen: synthetic phosphopeptide corresponding to residues surrounding Ser159 of human PLIN2

Purification: The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phospholation site.

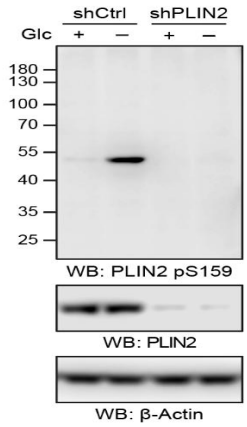
Specificity/Sensitivity: PLIN2 （Phospho-Ser159)antibody detects endogenous levels of PLIN2 only when phospholated at serine159 .

Reactivity: Human

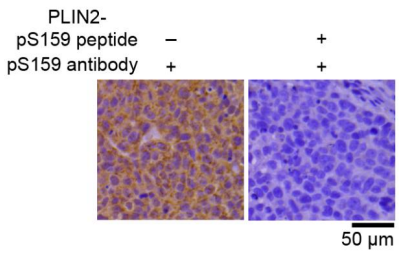
Applications:

Predicted MW: 50KD

WB :1:500~1:1000 IHC:1:50-200



Huh7 cells stably expressing PLIN2 shRNA or a control shRNA were treated with or without glucose deprivation for 40 min. Immunoblotting analyses were performed with the indicated antibodies.(3)



IHC analyses of human HCC samples were performed with PLIN2 pS159 antibody in the presence or absence of a blocking peptide for PLIN2 pS159.(3)

Background :Lipid droplets are surrounded by a single layer of polar, amphipathic phospholipids with structural proteins of the perilipin (PLIN) family, with PLIN1 being primarily an adipocyte protein and PLIN2 and PLIN3 being expressed ubiquitously [1] . Cells use these stored lipids as needed for a variety of functions, including energy production via fatty acid oxidation (also known as b-oxidation), membrane biogenesis for cell growth, protein modification, signaling, and secretion with lipoproteins. Glucose deprivation results in the binding of CHK α 2 to PLIN2/3 and subsequent CHKa2-mediated PLIN2 Y232 phosphorylation. The protein kinase activity of CHKa2-depdendent PLIN2/3 phosphorylation is required for tumor cell proliferation and tumor growth [2].

Reference:[1] Walther TC, Farese RV Jr. Lipid droplets and cellular lipid metabolism. Annu Rev Biochem. 2012; 81:687-714. doi: 10.1146/annurev-biochem-061009-102430.

[2] Liu R, Lee JH, Li J, Yu R, Tan L, Xia Y, Zheng Y, Bian XL, Lorenzi PL, Chen Q, Lu Z. Choline kinase alpha 2 acts as a protein kinase to promote lipolysis of lipid droplets. Mol Cell. 2021 Jul 1;81(13):2722-2735.e9. doi: 10.1016/j.molcel.2021.05.005.

[3] YingMeng,DongGuo,LimingLin,HongZhao,WeitingXu,ShudiLuo,XiaomingJiang,ShanLi,XuxiaoHe,RongxuanZhu,RongkaiShi,LiweiXiao,QingangWu,HaiyanHe,JingjingTao,HongfeiJiang,ZhengWang,PengboYao,DaqianXu&ZhimiLu.Glycolytic enzyme PFKL governs lipolysis by promoting lipid droplet-mitochondria tethering to enhance β-oxidation and tumor cell proliferation.Nature metabolism.https://doi.org/10.1038/s42255-024-01047-2.
PMID:38773347