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FASN Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7449C

Product Information

Application	IF, WB, IHC-P, FC, E
Primary Accession	P49327
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB17743
Calculated MW	273427
Antigen Region	942-973

Additional Information

Gene ID	2194
Other Names	Fatty acid synthase, [Acyl-carrier-protein] S-acetyltransferase, [Acyl-carrier-protein] S-malonyltransferase, 3-oxoacyl-[acyl-carrier-protein] synthase, 3-oxoacyl-[acyl-carrier-protein] reductase, 3-hydroxyacyl-[acyl-carrier-protein] dehydratase, Enoyl-[acyl-carrier-protein] reductase, Oleoyl-[acyl-carrier-protein] hydrolase, FASN, FAS
Target/Specificity	This FASN antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 942-973 amino acids from the Central region of human FASN.
Dilution	IF~~1:10~50 WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	FASN Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	FASN

Synonyms	FAS
Function	Fatty acid synthetase is a multifunctional enzyme that catalyzes the de novo biosynthesis of long-chain saturated fatty acids starting from acetyl-CoA and malonyl-CoA in the presence of NADPH. This multifunctional protein contains 7 catalytic activities and a site for the binding of the prosthetic group 4'-phosphopantetheine of the acyl carrier protein ([ACP]) domain.
Cellular Location	Cytoplasm. Melanosome. Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV
Tissue Location	Ubiquitous. Prominent expression in brain, lung, liver and mammary gland.

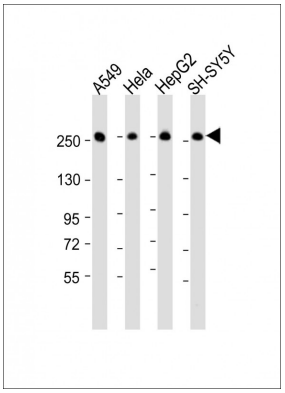
Background

FASN is a multifunctional protein. Its main function is to catalyze the synthesis of palmitate from acetyl-CoA and malonyl-CoA, in the presence of NADPH, into long-chain saturated fatty acids. In some cancer cell lines, this protein has been found to be fused with estrogen receptor-alpha (ER-alpha), in which the N-terminus of FAS is fused in-frame with the C-terminus of ER-alpha.

References

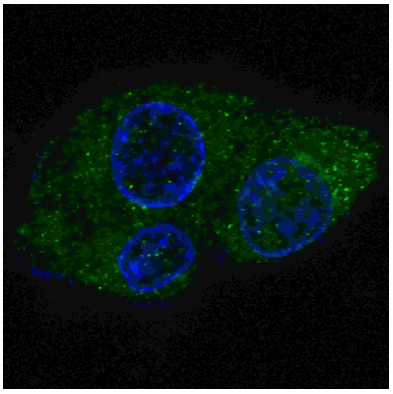
References for protein:
1.Jayakumar A., Tai M.-H.Proc. Natl. Acad. Sci. U.S.A. 92:8695-8699(1995)
2.Kuhajda F.P., Jenner K.Proc. Natl. Acad. Sci. U.S.A. 91:6379-6383(1994)
3.Semenkovich C.F., Coleman T.J. Lipid Res. 36:1507-1521(1995)
References for HepG2 cell line:
1. Knowles BB, et al. (1980). Human hepatocellular carcinoma cell lines secrete the major plasma proteins and hepatitis B surface antigen. Science 209: 497-499.[PubMed: 6248960].
2. Darlington GJ, et al. (1987). Growth and hepatospecific gene expression of human hepatoma cells in a defined medium. In Vitro Cell. Dev. Biol. 23: 349-354.[PubMed: 3034851].
3. Ihrke, G; Neufeld, EB; Meads, T; Shanks, MR; Cassio, D; Laurent, M; Schroer, TA; Pagano, RE et al. (1993). "WIF-B cells: an in vitro model for studies of hepatocyte polarity". Journal of Cell Biology 123 (6): 1761–1775. [PubMed:7506266].
4. Mersch-Sundermann, V.; Knasmüller, S.; Wu, X. J.; Darroudi, F.; Kassie, F. (2004). "Use of a human-derived liver cell line for the detection of cytoprotective, antigenotoxic and cogenotoxic agents". Toxicology 198 (1–3): 329–340. [PubMed:15138059].

Images

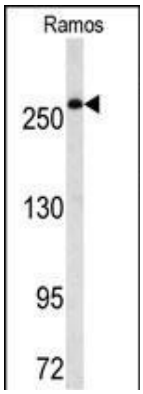


All lanes : Anti-FASN Antibody (Center) at 1:16000 dilution Lane 1: A549 whole cell lysate Lane 2: Hela whole cell lysate Lane 3: HepG2 whole cell lysate Lane 4: SH-SY5Y whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 273 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

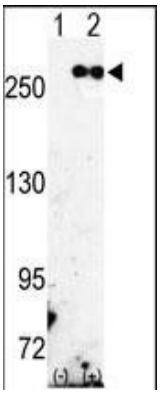
Fluorescent confocal image of HepG2 cells stained with FASN (Center) antibody. HepG2 cells were fixed with 4%



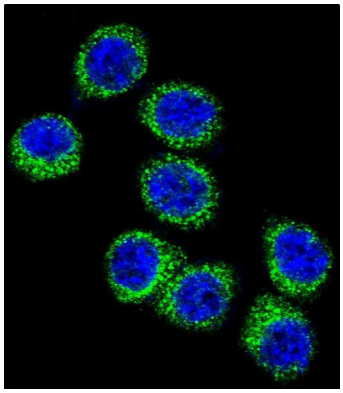
PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min). Cells were then incubated with AP7449c FASN (Center) primary antibody (1:200, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:1000, 1h). Nuclei were counterstained with Hoechst 33342 (blue) (10 µg/ml, 5 min). Note the highly specific localization of the FASN mainly to the mainly to the cytoplasm, supported by Human Protein Atlas Data (http://www.proteinatlas.org/ENSG00000169710).



Western blot analysis of FASN Antibody (Center) (Cat. #AP7449c) in Ramos cell line lysates (35ug/lane).FASN (arrow) was detected using the purified Pab.

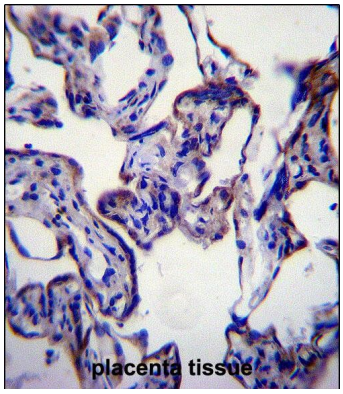


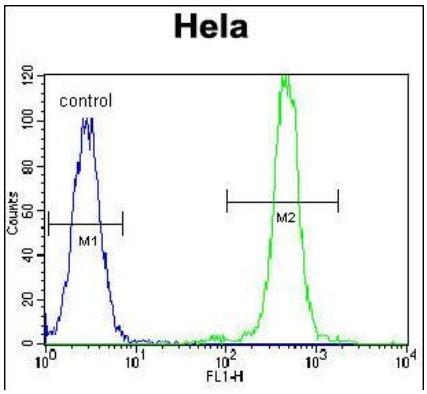
Western blot analysis of FASN (arrow) using rabbit polyclonal FASN Antibody (Center)(Cat.#AP7449c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the FASN gene (Lane 2) (Origene Technologies).



Confocal immunofluorescent analysis of FASN Antibody (Center)(Cat#AP7449c) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).DAPI was used to stain the cell nuclear (blue).

FASN Antibody (Center) (Cat. #AP7449c)immunohistochemistry analysis in formalin fixed and paraffin embedded human placenta tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of FASN Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.





FASN Antibody (Center) (Cat. #AP7449c) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.