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FASN Antibody (Center)

Mouse Monoclonal Antibody (Mab)
Catalog # AM2067B

Product Information

Application	WB, IF, E
Primary Accession	P49327
Other Accession	NP_004095.4
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1,κ
Clone Names	2070CT422.21.35
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 mice immunized with a KLH conjugated synthetic peptide between 942-973 amino acids from the Central region of human FASN.
Dilution	WB~~1:8000 IF~~1:25 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Euglobin 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.

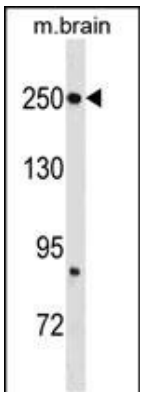
Background

The enzyme encoded by this gene 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.

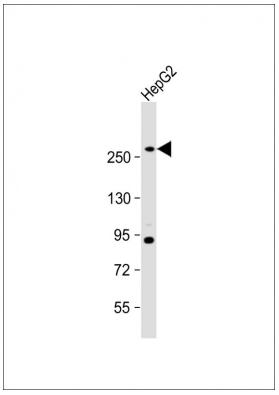
References

References for protein:
1.Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
2.Nguyen, P.L., et al. J. Clin. Oncol. 28(25):3958-3964(2010)
3.Ruano, G., et al. Pharmacogenomics 11(7):959-971(2010)
4.Tischler, V., et al. Histopathology 56(6):811-815(2010)
5.Dorn, C., et al. Int J Clin Exp Pathol 3(5):505-514(2010)
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].

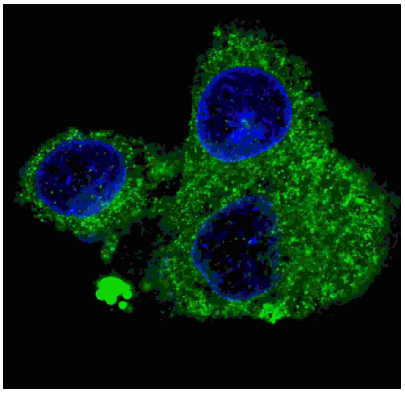
Images



FASN Antibody (Center) (Cat. #AM2067b) western blot analysis in mouse brain tissue lysates (35µg/lane).This demonstrates the FASN (Center) antibody detected the FASN (Center) protein (arrow).



Anti- at 1:1000 dilution + HepG2 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse 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 AM2067b FASN primary antibody (1:200, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-mouse 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 immunosignal to the cytoplasm, supported by Human Protein Atlas Data (http://www.proteinatlas.org/ENSG00000169710).