SANTA CRUZ BIOTECHNOLOGY, INC.

FNDC3B (B-1): sc-393997

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Adipogenesis, the process of transforming pre-adipocytes into mature fat cells, is of particular interest due to the role adipocytes play in obesity and type II diabetes. Adipocytes have been shown to affect a variety of functions, including hemostasis, angiogenesis and energy balance, by secreting hormones and bioactive peptides. The FNDC3B protein, also designated FAD104 (factor for adipocyte differentiation 104) or HCV NS5A-binding protein 37, is expressed during early adipogenesis. Belonging to the FNDC3 family of proteins, FNDC3B is a 1,204 amino acid protein that contains nine Fibronectin type-III domains. FNDC3B-deficient mice die within one day of birth, suggesting that FNDC3B is crucial for postpartum survival. Mouse embryonic fibroblasts (MEFs) with loss of FNDC3B function displayed a reduction in stress fiber formation, indicating a role for FNDC3B in cell proliferation, adhesion, spreading and migration.

REFERENCES

1. Gregoire, F.M., et al. 1998. Understanding adipocyte differentiation. Physiol. Rev. 78: 783-809.
2. Rosen, E.D. 2002. The molecular control of adipogenesis, with special reference to lymphatic pathology. Ann. N.Y. Acad. Sci. 979: 143-158.

CHROMOSOMAL LOCATION

Genetic locus: FNDC3B (human) mapping to 3q26.31; Fndc3b (mouse) mapping to 3 A3.

SOURCE

FNDC3B (B-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 6-21 at the N-terminus of FNDC3B of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FNDC3B (B-1) is available conjugated to agarose (sc-393997 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393997 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393997 PE), fluorescein (sc-393997 FITC), Alexa Fluor® 488 (sc-393997 AF488), Alexa Fluor® 546 (sc-393997 AF546), Alexa Fluor® 594 (sc-393997 AF594) or Alexa Fluor® 647 (sc-393997 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393997 AF680) or Alexa Fluor® 790 (sc-393997 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393997 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

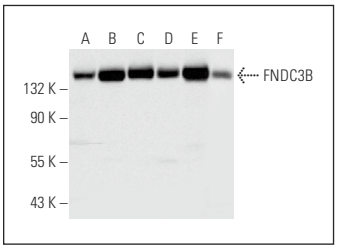
FNDC3B (B-1) is recommended for detection of FNDC3B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for FNDC3B siRNA (h): sc-78339, FNDC3B siRNA (m): sc-145212, FNDC3B shRNA Plasmid (h): sc-78339-SH, FNDC3B shRNA Plasmid (m): sc-145212-SH, FNDC3B shRNA (h) Lentiviral Particles: sc-78339-V and FNDC3B shRNA (m) Lentiviral Particles: sc-145212-V.

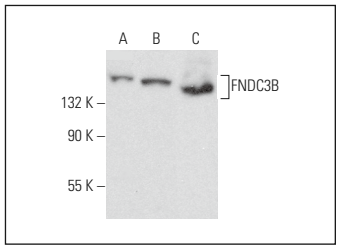
Molecular Weight of FNDC3B isoforms: 133/70/8 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243, NIH/3T3 whole cell lysate: sc-2210 or U-251-MG whole cell lysates: sc-364176.

DATA



FNDC3B (B-1): sc-393997. Western blot analysis of FNDC3B expression in 3T3-L1 (**A**), NIH/3T3 (**B**), U-251-MG (**C**), HeLa (**D**), Hep G2 (**E**) and HL-60 (**F**) whole cell lysates.



FNDC3B (B-1): sc-393997. Western blot analysis of FNDC3B expression in Caco-2 (**A**), COLO 205 (**B**) and Neuro-2A (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Bilandzic, M., et al. 2019. Keratin-14 (KRT14) positive leader cells mediate mesothelial clearance and invasion by ovarian cancer cells. Cancers 11: 1228.
2. Li, Y.Q., et al. 2020. FNDC3B 3'-UTR shortening escapes from microRNA-mediated gene repression and promotes nasopharyngeal carcinoma progression. Cancer Sci. 111: 1991-2003.
3. You, Y., et al. 2022. FNDC3B promotes steatosis and ferroptosis via the AMPK pathway in alcoholic fatty liver disease. Free Radic. Biol. Med. 193: 808-819.
4. Phoomak, C., et al. 2023. Signal recognition particle receptor-β (SR-β) coordinates cotranslational N-glycosylation. Sci. Adv. 9: eade8079.
5. Wu, N., et al. 2024. SH-Alb inhibits phenotype remodeling of pro-fibrotic macrophage to attenuate liver fibrosis through SIRT3-SOD2 axis. Biomed. Pharmacother. 176: 116919.

RESEARCH USE

For research use only, not for use in diagnostic procedures.