SANTA CRUZ BIOTECHNOLOGY, INC.

FNDC3B (B-6): sc-393875

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.
3. Tominaga, K., et al. 2004. The novel gene FAD104, containing a Fibronectin type III domain, has a significant role in adipogenesis. FEBS Lett. 577: 49-54.
4. Tominaga, K., et al. 2004. Fad24, a mammalian homolog of Noc3p, is a positive regulator in adipocyte differentiation. J. Cell Sci. 117: 6217-6226.
5. Ailhaud, G. 2006. Adipose tissue as a secretory organ: from adipogenesis to the metabolic syndrome. C. R. Biol. 329: 570-577.
6. Johmura, Y. 2007. Characterization of novel genes regulating adipocyte differentiation. Yakugaku Zasshi 127: 135-142.
7. Hishida, T., et al. 2008. A novel gene, fad49, plays a crucial role in the immediate early stage of adipocyte differentiation via involvement in mitotic clonal expansion. FEBS J. 275: 5576-5588.
8. Nishizuka, M., et al. 2009. Disruption of the novel gene FAD104 causes rapid postnatal death and attenuation of cell proliferation, adhesion, spreading and migration. Exp. Cell Res. 315: 809-819.
9. Szeliga, M., et al. 2009. Transfection with liver-type glutaminase cDNA alters gene expression and reduces survival, migration and proliferation of T98G glioma cells. Glia 57: 1014-1023.

CHROMOSOMAL LOCATION

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

SOURCE

FNDC3B (B-6) is a mouse monoclonal antibody raised against amino acids 1-42 mapping at the N-terminus of FNDC3B of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

FNDC3B (B-6) 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).

FNDC3B (B-6) is also recommended for detection of FNDC3B in additional species, including equine, canine and bovine.

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.

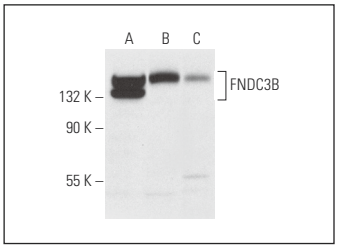
Molecular Weight of FNDC3B isoforms: 133/70/8 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Hep G2 cell lysate: sc-2227 or 3T3-L1 cell lysate: sc-2243.

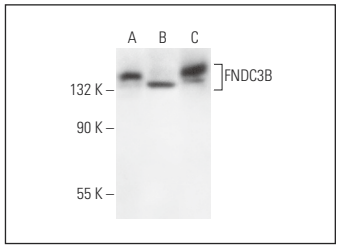
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



FNDC3B (B-6): sc-393875. Western blot analysis of FNDC3B expression in NIH/3T3 (**A**), U-251-MG (**B**) and HeLa (**C**) whole cell lysates.



FNDC3B (B-6): sc-393875. Western blot analysis of FNDC3B expression in 3T3-L1 (**A**), Jurkat (**B**) and Hep G2 (**C**) whole cell lysates.

STORAGE

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