SANTA CRUZ BIOTECHNOLOGY, INC.

ADPN (C-8): sc-390252

BACKGROUND

ADPN, a member of the Adiponutrin family, displays lipase activity that is dependent upon the presence of an activated serine residue. D-glucose elicits a seven-fold increase in ADPN mRNA levels, and Insulin has a slight effect on ADPN expression in the presence or absence of glucose. The glucose-induced increase in ADPN expression can be reversed by factors known to raise intracellular cAMP. mRNA ADPN levels are negatively correlated with fasting glucose levels and subjects with high ADPN mRNA levels have increased Insulin sensitivity, implicating ADPN in obesity and diabetes. ADPN gene expression in humans is highly regulated by changes in energy balance. In mice adipocytes, ADPN parallels the expression of fatty acid synthase (FAS) and Srebp1c, a variant of Srebp1.

REFERENCES

1. Baulande, S., et al. 2001. Adiponutrin, a transmembrane protein corresponding to a novel dietary- and obesity-linked mRNA specifically expressed in the adipose lineage. J. Biol. Chem. 276: 33336-33344.
2. Polson, D.A. and Thompson, M.P. 2003. Adiponutrin mRNA expression in white adipose tissue is rapidly induced by meal-feeding a high-sucrose diet. Biochem. Biophys. Res. Commun. 301: 261-266.
3. Polson, D. and Thompson, M. 2003. Adiponutrin gene expression in 3T3-L1 adipocytes is downregulated by troglitazone. Horm. Metab. Res. 35: 508-510.
4. Polson, D.A. and Thompson, M.P. 2004. Macronutrient composition of the diet differentially affects leptin and adiponutrin mRNA expression in response to meal feeding. J. Nutr. Biochem. 15: 242-246.
5. Wiesner, G., et al. 2004. Food restriction regulates adipose-specific cytokines in pituitary gland but not in hypothalamus. J. Endocrinol. 180: R1-R6.
6. Liu, Y.M., et al. 2004. Adiponutrin: a new gene regulated by energy balance in human adipose tissue. J. Clin. Endocrinol. Metab. 89: 2684-2689.
7. Bertile, F. and Raclot, T. 2004. Differences in mRNA expression of adipocyte-derived factors in response to fasting, refeeding and leptin. Biochim. Biophys. Acta 1683: 101-109.
8. Lake, A.C., et al. 2005. Expression, regulation, and triglyceride hydrolase activity of Adiponutrin family members. J. Lipid Res. 46: 2477-2487.
9. Kershaw, E.E., et al. 2006. Adipose triglyceride lipase: function, regulation by Insulin, and comparison with adiponutrin. Diabetes 55: 148-157.

CHROMOSOMAL LOCATION

Genetic locus: PNPLA3 (human) mapping to 22q13.31.

SOURCE

ADPN (C-8) is a mouse monoclonal antibody raised against amino acids 191-481 mapping at the C-terminus of ADPN 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

ADPN (C-8) is recommended for detection of ADPN of 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 ADPN siRNA (h): sc-60129, ADPN shRNA Plasmid (h): sc-60129-SH and ADPN shRNA (h) Lentiviral Particles: sc-60129-V.

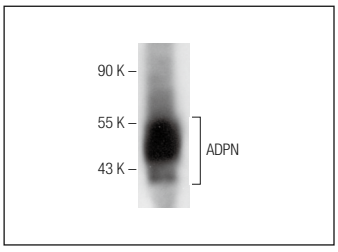
Molecular Weight of ADPN: 53 kDa.

Positive Controls: human liver extract: sc-363766.

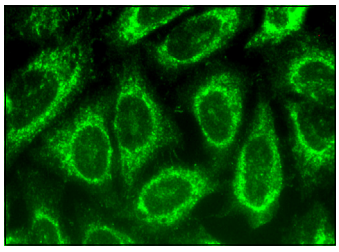
RECOMMENDED SUPPORT REAGENTS

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



ADPN (C-8): sc-390252. Western blot analysis of ADPN expression in human liver tissue extract.



ADPN (C-8): sc-390252. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Ndiaye, H., et al. 2020. Immunohistochemical staining reveals differential expression of ACSL3 and ACSL4 in hepatocellular carcinoma and hepatic gastrointestinal metastases. Biosci. Rep. 40: BSR20200219.

STORAGE

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