SANTA CRUZ BIOTECHNOLOGY, INC.

GS2 (E-8): sc-393988

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Adiponutrin family consists of Adiponutrin (ADPN), adipocyte triglyceride lipase (ATGL, also designated desnutrin), GS1, GS2, GS2-like and PNPLA1. ADPN, ATGL and GS2 display lipase activity, which is dependent upon the presence of an activated serine residue. GS2, also designated DXS1283E or patatin-like phospholipase domain containing 4 (PNPLA4), is expressed in all tissues that have been examined, including brain, heart, lung, muscle, placenta, liver, spleen, pancreas and kidney. It is also expressed highly in adipose tissue and may contribute to lipolysis in human adipose tissue. GS2-like, also designated patatin-like phospholipase domain containing 5 (PNPLA5), is expressed and regulated similarly to ADPN, although the levels of GS2-like mRNA are lower than ADPN. Overexpression of GS2, GS2-like and ATGL lowers intracellular triglyceride levels. GS2-like and ADPN are strongly induced in the liver of ob/ob mice.

REFERENCES

1. Lee, W.C., et al. 1994. Isolation of a new gene GS2 (DXS1283E) from a CpG island between STS and KAL1 on Xp22.3. Genomics 22: 372-376.
2. 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.
3. Jenkins, C.M., et al. 2004. Identification, cloning, expression, and purification of three novel human calcium-independent phospholipase A_2 family members possessing triacylglycerol lipase and acylglycerol transacylase activities. J. Biol. Chem. 279: 48968-48975.
4. 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.
5. Gao, J. and Simon, M. 2005. Identification of a novel keratinocyte retinyl ester hydrolase as a transacylase and lipase. J. Invest. Dermatol. 124: 1259-1266.
6. Lake, A.C., et al. 2005. Expression, regulation, and triglyceride hydrolase activity of Adiponutrin family members. J. Lipid Res. 46: 2477-2487.
7. Wilson, P.A., et al. 2006. Characterization of the human patatin-like phospholipase family. J. Lipid Res. 47: 1940-1949.

CHROMOSOMAL LOCATION

Genetic locus: PNPLA4 (human) mapping to Xp22.31.

SOURCE

GS2 (E-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 90-121 within an internal region of GS2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393988 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GS2 (E-8) is recommended for detection of GS2 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 GS2 siRNA (h): sc-60770, GS2 shRNA Plasmid (h): sc-60770-SH and GS2 shRNA (h) Lentiviral Particles: sc-60770-V.

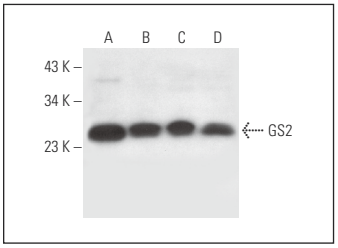
Molecular Weight of GS2: 28 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, JAR cell lysate: sc-2276 or SK-N-SH cell lysate: sc-2410.

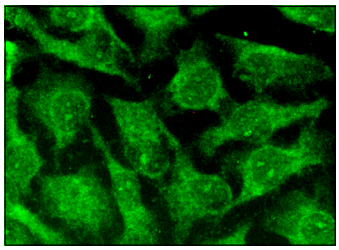
RECOMMENDED SUPPORT REAGENTS

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



GS2 (E-8): sc-393988. Western blot analysis of GS2 expression in Hep G2 (**A**), SK-N-SH (**B**), WI-38 (**C**) and JAR (**D**) whole cell lysates.



GS2 (E-8): sc-393988. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.