SANTA CRUZ BIOTECHNOLOGY, INC.

DGAT2 (H-70): sc-66859

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glucose and insulin are anabolic signals which upregulate the transcriptions of a series of lipogenic enzymes to convert excess carbohydrate into triglycerides for efficient energy storage. Acyl-coenzyme A: diacylglycerol acyltransferase, also known as DGAT1 and ARGP1, is a microsomal enzyme that assists in the synthesis of fatty acids into triglycerides. DGAT1 catalyzes the terminal and only committed step in triacylglycerol synthesis by using diacylglycerol (DAG) and fatty acyl CoA as substrates. DGAT1 plays a fundamental role in the metabolism of cellular diacylglycerol and is important in higher eukaryotes for physiologic processes involving triacylglycerol metabolism, such as intestinal fat absorption, lipoprotein assembly, adipose tissue formation and lactation. DGAT2, which has no homology to DGAT1, differs from DGAT1 in that its activity has been shown to be inhibited by MgCl in an *in vitro* assay. DGAT2 is expressed primarily in liver and white adipose tissue, which suggests that it plays an important role in mammalian triglyceride metabolism.

REFERENCES

1. Cases, S., et al. 1998. Identification of a gene encoding an acyl CoA: diacyl-glycerol acyltransferase, a key enzyme in triacylglycerol synthesis. Proc. Natl. Acad. Sci. USA 95: 13018-13023.
2. Cases, S., et al. 2001. Cloning of DGAT2, a second mammalian diacylglycerol acyltransferase, and related family members. J. Biol. Chem. 276: 38870-38876.

CHROMOSOMAL LOCATION

Genetic locus: DGAT2 (human) mapping to 11q13.5; Dgat2 (mouse) mapping to 7 E2.

SOURCE

DGAT2 (H-70) is a rabbit polyclonal antibody raised against amino acids 1-70 mapping at the N-terminus of DGAT2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

DGAT2 (H-70) is recommended for detection of DGAT2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (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 DGAT2 siRNA (h): sc-45520, DGAT2 siRNA (m): sc-45521, DGAT2 shRNA Plasmid (h): sc-45520-SH, DGAT2 shRNA Plasmid (m): sc-45521-SH, DGAT2 shRNA (h) Lentiviral Particles: sc-45520-V and DGAT2 shRNA (m) Lentiviral Particles: sc-45521-V.

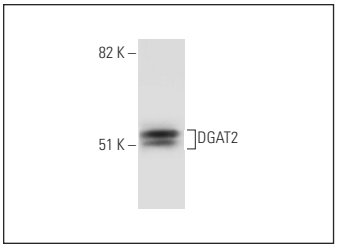
Molecular Weight of DGAT2: 44 kDa.

Positive Controls: NCI-H460 whole cell lysate: sc-364235.

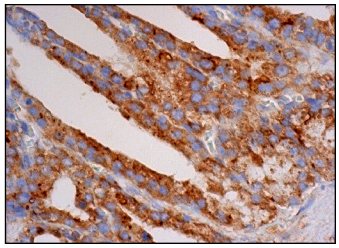
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



DGAT2 (H-70): sc-66859. Western blot analysis of DGAT2 expression in NCI-H460 whole cell lysate.



DGAT2 (H-70): sc-66859. Immunoperoxidase staining of formalin fixed, paraffin-embedded human seminal vesicle tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Li, M., et al. 2011. High muscle lipid content in obesity is not due to enhanced activation of key triglyceride esterification enzymes or the suppression of lipolytic proteins. Am. J. Physiol. Endocrinol. Metab. 300: E699-E707.
2. Meilin, E., et al. 2011. Insulin increases macrophage triglyceride accumulation under diabetic conditions through the down regulation of hormone sensitive lipase and adipose triglyceride lipase. Biofactors 37: 95-103.

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.