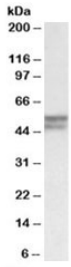
DGAT1 Antibody (R35545)

Catalog No.	Formulation	Size
R35545-100UG	0.5 mg/ml in 1X TBS, pH7.3, with 0.5% BSA (US sourced) and 0.02% sodium azide	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Mouse
Predicted Reactivity	Rat, Dog, Pig, Cow
Format	Antigen affinity purified
Host	Goat
Clonality	Polyclonal (goat origin)
Isotype	Goat Ig
Purity	Antigen affinity
Gene ID	8694
Applications	Western blot: 0.5-2ug/ml ELISA (peptide) LOD: 1:128000
Limitations	This DGAT1 antibody is available for research use only.



DGAT1 Antibody Mouse Duodenum WB. Western blot analysis of DGAT1 expression was performed using anti-DGAT1 antibody in mouse duodenum lysate. DGAT1, also known as Diacylglycerol O-Acyltransferase 1, catalyzes the final step of triglyceride synthesis and plays an essential role in dietary fat absorption and triglyceride storage. A specific immunoreactive band is detected at approximately 45-55 kDa, corresponding to the predicted molecular weight of DGAT1 (~55 kDa). The prominent expression observed in duodenal tissue is consistent with the established role of DGAT1 in enterocyte fatty acid re-esterification and chylomicron assembly. These results support the utility of DGAT1 Antibody for studies of triglyceride biosynthesis, intestinal lipid metabolism, and energy homeostasis.

Description

DGAT1 Antibody detects diacylglycerol O-acyltransferase 1 (DGAT1), a key enzyme responsible for catalyzing the final and committed step in triacylglycerol synthesis. DGAT1 transfers fatty acyl groups from acyl-CoA to diacylglycerol, producing triglycerides that are subsequently packaged into lipid droplets for energy storage. The enzyme is a member of

the membrane-bound O-acyltransferase family and is predominantly localized to the endoplasmic reticulum. DGAT1 is widely expressed in metabolically active tissues, including the intestine, liver, adipose tissue, skeletal muscle, and mammary gland.

By converting excess fatty acids into neutral lipids, DGAT1 plays an essential role in maintaining cellular lipid homeostasis and preventing lipotoxicity. In the intestine, DGAT1 participates in the re-esterification of dietary fatty acids and the assembly of triglyceride-rich chylomicrons. In adipocytes, DGAT1 contributes to long-term energy storage, while in mammary tissue it supports milk fat production. Studies in animal models have demonstrated that altered DGAT1 activity affects body weight, insulin sensitivity, and energy expenditure, underscoring the enzyme's importance in systemic metabolism.

Increasing evidence indicates that DGAT1-mediated lipid droplet formation also influences cell survival, oxidative stress responses, and inflammatory signaling. Lipid droplets are now recognized as dynamic organelles involved in protein sequestration, membrane biosynthesis, and metabolic adaptation. Consequently, DGAT1 has emerged as an important regulator of cellular responses to nutrient excess and metabolic stress. Aberrant DGAT1 expression has been associated with obesity, nonalcoholic fatty liver disease, dyslipidemia, insulin resistance, and certain malignancies characterized by altered lipid metabolism.

DGAT1 Antibody is useful for investigating triglyceride biosynthesis, lipid droplet formation, fatty acid metabolism, and energy homeostasis. It is commonly employed in studies of obesity, diabetes, hepatic steatosis, intestinal lipid absorption, and cancer metabolism, making it a valuable tool for metabolic and cell biology research.

Explore our DGAT1 Antibody / Triglyceride Synthesis Enzyme Antibody for additional information on this key regulator of triglyceride synthesis, lipid droplet formation, and metabolic homeostasis.

Application Notes

Optimal dilution of the DGAT1 antibody should be determined by the researcher.

Immunogen

Amino acids RCHRLQDSLFSSD were used as the immunogen for this DGAT1 antibody.

Storage

Aliquot and store the DGAT1 antibody at -20oC.

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