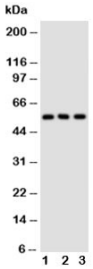
GLUT5 Antibody / Fructose Transporter Protein Antibody (R30827)

Catalog No.	Formulation	Size
R30827	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

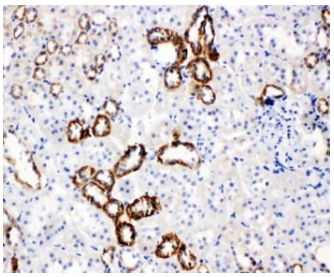
Citations (1)

Bulk quote request

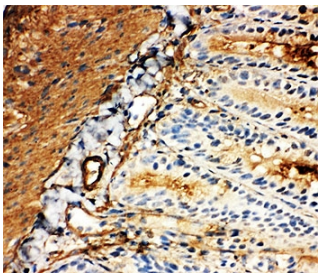
Availability	1-3 business days
Species Reactivity	Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide/thimerosal
UniProt	Q9WV38
Localization	Cytoplasmic, membranous
Applications	Western blot: 0.5-1ug/ml IHC (FFPE): 0.5-1ug/ml IHC (Frozen): 0.5-1ug/ml
Limitations	This GLUT5 Antibody / Fructose Transporter Protein Antibody is available for research use only.



GLUT5 Antibody Rodent Tissues WB. Western blot analysis of GLUT5 expression using a GLUT5 antibody. Lane 1: rat kidney tissue lysate. Lane 2: rat liver tissue lysate. Lane 3: mouse kidney tissue lysate. GLUT5, also known as Fructose Transporter Protein, is a facilitative glucose transporter family member responsible for fructose uptake and metabolism. A prominent band is detected at approximately 55 kDa in all samples, consistent with the expected molecular weight of GLUT5. These results demonstrate endogenous expression of GLUT5 in rodent tissues and support the utility of this antibody for studies of fructose transport, carbohydrate metabolism, and nutrient homeostasis.



GLUT5 Antibody Rat Kidney IHC. Immunohistochemical staining of rat kidney demonstrates GLUT5 expression using a GLUT5 antibody. GLUT5, also known as Fructose Transporter Protein, is a facilitative transporter responsible for fructose uptake and plays an important role in carbohydrate metabolism and nutrient homeostasis. Strong membranous staining is observed in renal tubular epithelial cells, consistent with the known localization of GLUT5 in kidney tissues involved in fructose reabsorption and transport. Heat induced epitope retrieval and immunoperoxidase staining reveal robust expression of this fructose transporter in rat kidney. These results support the utility of GLUT5 Antibody for studies of fructose metabolism, renal physiology, and metabolic regulation.



GLUT5 Antibody Rat Intestine IHC. Immunohistochemical staining of frozen rat intestine demonstrates GLUT5 expression using a GLUT5 antibody. GLUT5, also known as Fructose Transporter Protein, is a facilitative transporter responsible for the absorption of dietary fructose and plays a central role in carbohydrate metabolism. Strong membranous and apical staining is observed in intestinal epithelial cells, consistent with the known localization of GLUT5 in enterocytes of the small intestine. These findings highlight the importance of GLUT5 in mediating fructose uptake from the intestinal lumen. The results support the utility of GLUT5 Antibody for studies of nutrient transport, intestinal physiology, and metabolic regulation.

Description

GLUT5 Antibody recognizes GLUT5, also known as SLC2A5, a member of the facilitative glucose transporter family that functions primarily as a fructose transporter. Unlike other GLUT family proteins that transport glucose, GLUT5 exhibits a strong preference for fructose and mediates the uptake of dietary fructose across cellular membranes. GLUT5 is an integral membrane protein with twelve transmembrane domains and is expressed predominantly in the small intestine, kidney, skeletal muscle, adipose tissue, and spermatozoa. By regulating fructose absorption and utilization, GLUT5 plays an important role in carbohydrate metabolism and systemic energy homeostasis.

GLUT5 is highly expressed in the apical membrane of intestinal epithelial cells, where it facilitates the absorption of fructose from the intestinal lumen. Following uptake, fructose is metabolized in the liver and other tissues to provide energy and biosynthetic intermediates. Expression of GLUT5 is regulated by dietary fructose intake, hormones, and metabolic signals, allowing tissues to adapt to changes in nutrient availability. In the kidney, GLUT5 contributes to fructose handling and reabsorption, while expression in reproductive tissues suggests additional roles in sperm maturation and fertility.

Altered GLUT5 expression has been associated with obesity, insulin resistance, nonalcoholic fatty liver disease, diabetes, and metabolic syndrome. Increased fructose consumption and elevated GLUT5 activity have been implicated in hepatic steatosis and dysregulated lipid metabolism. Aberrant expression of GLUT5 has also been reported in breast cancer, colorectal cancer, lung cancer, and leukemia, where enhanced fructose uptake may support tumor growth and metabolic reprogramming. Consequently, GLUT5 has emerged as a potential biomarker and therapeutic target in both metabolic disease and cancer biology.

In addition to its role in nutrient transport, GLUT5 participates in cellular responses to oxidative stress and metabolic adaptation. Studies have demonstrated that modulation of fructose metabolism influences inflammation, mitochondrial function, and energy balance. Because fructose utilization contributes to numerous physiological and pathological processes, GLUT5 remains an important target for investigations of metabolism and disease mechanisms.

GLUT5 Antibody is useful for studies of fructose transport, carbohydrate metabolism, nutrient absorption, and metabolic disease. Published studies have utilized GLUT5 antibodies to investigate transporter expression and regulation in normal and diseased tissues. The ability to detect endogenous GLUT5 makes this antibody a valuable tool for research involving intestinal physiology, renal function, cancer metabolism, and energy homeostasis.

Learn more about antibodies for glucose transport, insulin response, and energy homeostasis by visiting our Metabolism Antibodies page, featuring GLUT5 antibodies and other metabolic pathway markers.

Application Notes

Titration of the GLUT5 Antibody / Fructose Transporter Protein Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An amino acid sequence from the middle region of mouse Glucose Transporter 5 (ALQTLRGWKDVHLEMEEIRK) was used as the immunogen for this GLUT5 antibody.

Storage

The lyophilized GLUT5 antibody can be stored at 4oC. After reconstitution, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

SLC2A5 Antibody, Solute Carrier Family 2 Member 5 Antibody, Fructose Transporter GLUT5 Antibody, Facilitative Glucose Transporter 5 Antibody, Hexose Transporter Protein Antibody, Intestinal Fructose Transporter Antibody, Sugar Transport Protein Antibody

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