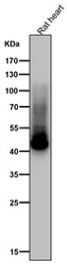
Phospho-GLUT4 (pSer488) Antibody / SLC2A4 [clone 32S34] (FY13345)

Catalog No.	Formulation	Size
FY13345	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

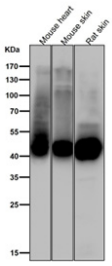
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32S34
Purity	Affinity chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P14672
Applications	Western Blot : 1:500-1:2000
Limitations	This Phospho-GLUT4 (pSer488) antibody is available for research use only.



Western blot testing of rat heart tissue lysate using the Phospho-GLUT4 (pSer488) antibody at 1:1000 dilution for 1 hour at room temperature. Predicted molecular weight ~55 kDa and ~44 kDa (two isoforms).



Western blot testing of rat and mouse samples using the Phospho-GLUT4 (pSer488) antibody at 1:1000 dilution for 1 hour at room temperature. Predicted molecular weight ~55 kDa and ~44 kDa (two isoforms).

Description

Phospho-GLUT4 (pSer488) antibody detects GLUT4 phosphorylated at serine 488, encoded by the SLC2A4 gene. GLUT4 is an insulin responsive glucose transporter that regulates cellular glucose uptake, particularly in adipose tissue and skeletal muscle. Phospho-GLUT4 (pSer488) antibody provides researchers with a highly specific reagent to study glucose transport regulation, insulin signaling, and metabolic disease.

GLUT4 is stored in intracellular vesicles under basal conditions and translocates to the plasma membrane in response to insulin stimulation. Research using Phospho-GLUT4 (pSer488) antibody has shown that phosphorylation at Ser488 modulates GLUT4 trafficking and activity, influencing how cells respond to hormonal signals. This modification connects insulin receptor activation with downstream control of glucose uptake.

Studies with Phospho-GLUT4 (pSer488) antibody have revealed that phosphorylation at Ser488 is mediated by kinases activated during insulin signaling, including Akt and related pathways. This modification fine tunes the balance between vesicular storage and surface localization, ensuring that glucose uptake matches metabolic demands. Dysregulation of GLUT4 phosphorylation impairs glucose handling and contributes to insulin resistance.

In type 2 diabetes and obesity, abnormal GLUT4 trafficking is a hallmark feature. Research using Phospho-GLUT4 (pSer488) antibody has demonstrated that altered phosphorylation disrupts GLUT4 translocation, leading to reduced glucose uptake in muscle and adipose tissue. This impairment contributes directly to hyperglycemia and metabolic imbalance. Targeting GLUT4 phosphorylation is being investigated as a strategy to restore glucose homeostasis in diabetes therapy.

Phospho-GLUT4 (pSer488) antibody is widely applied in western blotting, immunohistochemistry, and immunofluorescence. Western blotting distinguishes phosphorylated from total GLUT4 protein, immunohistochemistry localizes activated transporter in tissue sections, and immunofluorescence reveals dynamic trafficking patterns in cells. These applications make the antibody indispensable for metabolic research.

By providing validated Phospho-GLUT4 (pSer488) antibody reagents, NSJ Bioreagents supports studies into insulin signaling, glucose transport, and metabolic disorders. Detection of GLUT4 phosphorylated at Ser488 provides insight into how cells regulate nutrient uptake under physiological and pathological conditions.

Application Notes

Optimal dilution of the Phospho-GLUT4 (pSer488) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-GLUT4 (pS488) was used as the immunogen for the Phospho-GLUT4 (pSer488) antibody.

Storage

Store the Phospho-GLUT4 (pSer488) antibody at -20oC.

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