

Glut3 (H-50): sc-30107

BACKGROUND

Glucose is fundamental to the metabolism of mammalian cells. Its passage across cell membranes is mediated by a family of transporters termed glucose transporters or Gluts. Glut1, Glut3 and Glut4 are high-affinity transporters, whereas Glut2 is a low-affinity transporter. In adipose and muscle tissue, Insulin stimulates a rapid and dramatic increase in glucose uptake, which is largely due to the redistribution of the Insulin-inducible glucose transporter Glut4. In response to Insulin, Glut4 is quickly shuttled from an intracellular storage site to the plasma membrane, where it binds glucose. In contrast, the ubiquitously expressed glucose transporter Glut1 is constitutively targeted to the plasma membrane and shows a much less dramatic translocation in response to Insulin. Glut2 expression is seen in pancreatic β cells, hepatocytes and basolateral membranes of intestinal and epithelial cells, while the highest expression of Glut3 has been found in neuronal tissue.

REFERENCES

- Mueckler, M. 1994. Facilitative glucose transporters. *Eur. J. Biochem.* 219: 713-725.
- Livingstone, C., et al. 1995. Hypothalamic Glut4 expression: a glucose- and Insulin-sensing mechanism? *Mol. Cell. Endocrinol.* 107: 67-70.
- Marsh, B.J., et al. 1995. Molecular regulation of Glut4 targeting in 3T3-L1 adipocytes. *J. Cell Biol.* 130: 1081-1091.

CHROMOSOMAL LOCATION

Genetic locus: SLC2A3 (human) mapping to 12p13.31; Slc2a3 (mouse) mapping to 6 F2.

SOURCE

Glut3 (H-50) is a rabbit polyclonal antibody raised against amino acids 216-265 mapping within an internal region of Glut3 of human origin.

PRODUCT

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

APPLICATIONS

Glut3 (H-50) is recommended for detection of Glut3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 Glut3 siRNA (h): sc-41218, Glut3 siRNA (m): sc-41219, Glut3 shRNA Plasmid (h): sc-41218-SH, Glut3 shRNA Plasmid (m): sc-41219-SH, Glut3 shRNA (h) Lentiviral Particles: sc-41218-V and Glut3 shRNA (m) Lentiviral Particles: sc-41219-V.

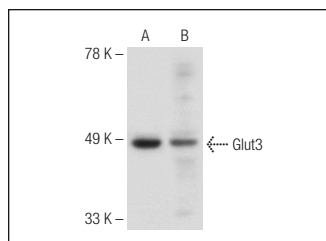
Molecular Weight of Glut3: 48-70 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411, Hep G2 cell lysate: sc-2227 or mouse heart extract: sc-2254.

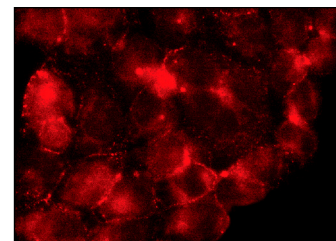
RECOMMENDED SECONDARY REAGENTS

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.

DATA



Glut3 (H-50): sc-30107. Western blot analysis of Glut3 expression in U-87 MG (A) and Hep G2 (B) whole cell lysates.



Glut3 (H-50): sc-30107. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

- Li, X., et al. 2013. Progesterone treatment before experimental hypoxia-ischemia enhances the expression of glucose transporter proteins GLUT1 and GLUT3 in neonatal rats. *Neurosci. Bull.* 29: 287-294.
- Jin, N., et al. 2013. CREB regulates the expression of neuronal glucose transporter 3: a possible mechanism related to impaired brain glucose uptake in Alzheimer's disease. *Nucleic Acids Res.* 41: 3240-3256.
- Xu, J., et al. 2015. Regulation of human trophoblast GLUT3 glucose transporter by mammalian target of rapamycin signaling. *Int. J. Mol. Sci.* 16: 13815-13828.

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.


 MONOS
Satisfaction
Guaranteed

Try **Glut3 (G-5): sc-74399** or **Glut3 (B-6): sc-74497**, our highly recommended monoclonal alternatives to Glut3 (H-50). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Glut3 (G-5): sc-74399**.