

Glut3 (C-20): sc-7581

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 beta cells, hepatocytes and basolateral membranes of intestinal and epithelial cells, while the highest expression of Glut3 has been found in neuronal tissue.

REFERENCES

1. Mueckler, M. 1994. Facilitative glucose transporters. *Eur. J. Biochem.* 219: 713-725.
2. McCall, A.L., et al. 1995. Progressive hippocampal loss of immunoreactive GLUT3, the neuron-specific glucose transporter, after global forebrain ischemia in the rat. *Brain Res.* 670: 29-38.
3. Livingstone, C., et al. 1995. Hypothalamic GLUT 4 expression: a glucose- and Insulin-sensing mechanism? *Mol. Cell. Endocrinol.* 107: 67-70.
4. Kandror, K.V., et al. 1995. Expression and compartmentalization of caveolin in adipose cells: coordinate regulation with and structural segregation from GLUT4. *J. Cell Biol.* 129: 999-1006.
5. Marsh, B.J., et al. 1995. Molecular regulation of GLUT-4 targeting in 3T3-L1 adipocytes. *J. Cell Biol.* 130: 1081-1091.
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CHROMOSOMAL LOCATION

Genetic locus: SLC2A3/SLC2A14 (human) mapping to 12p13.31.

SOURCE

Glut3 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Glut3 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.

Blocking peptide available for competition studies, sc-7581 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Glut3 (C-20) is recommended for detection of Glut3 and Glut14 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

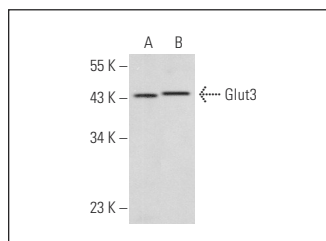
Molecular Weight of Glut3: 48-70 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, TE671 cell lysate: sc-2416 or ES-2 cell lysate: sc-24674.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Glut3 (C-20): sc-7581. Western blot analysis of Glut3 expression in TE671 (A) and K-562 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ximenes da Silva, A., et al. 2002. Glucose transport and utilization are altered in the brain of rats deficient in n-3 polyunsaturated fatty acids. *J. Neurochem.* 81: 1328-1337.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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Try **Glut3 (G-5): sc-74399** or **Glut3 (B-6): sc-74497**, our highly recommended monoclonal alternatives to Glut3 (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Glut3 (G-5): sc-74399**.