

Glut4 (C-20): sc-1608

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. 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. Glut1 and Glut4 are 12 pass transmembrane proteins (12TM) whose carboxy termini may dictate their cellular localization. Aberrant Glut4 expression has been suggested to contribute to such maladies as obesity and diabetes. Glut4 null mice have shown that while functional Glut4 protein is not required for maintaining normal glucose levels, it is necessary for sustained growth, normal cellular glucose, fat metabolism and prolonged longevity.

CHROMOSOMAL LOCATION

Genetic locus: SLC2A4 (human) mapping to 17p13.1; Slc2a4 (mouse) mapping to 11 B3.

SOURCE

Glut4 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Glut4 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-1608 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Glut4 (C-20) is recommended for detection of Glut4 of mouse, rat and 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).

Glut4 (C-20) is also recommended for detection of Glut4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Glut4 siRNA (h): sc-41220, Glut4 siRNA (m): sc-41221, Glut4 shRNA Plasmid (h): sc-41220-SH, Glut4 shRNA Plasmid (m): sc-41221-SH, Glut4 shRNA (h) Lentiviral Particles: sc-41220-V and Glut4 shRNA (m) Lentiviral Particles: sc-41221-V.

Molecular Weight of Glut4: 50-63 kDa.

Positive Controls: 3T3-L1 Cell Lysate : sc-2243.

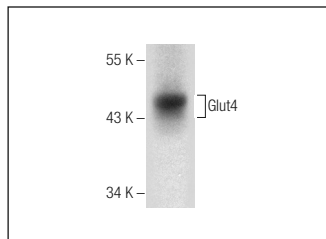
RESEARCH USE

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

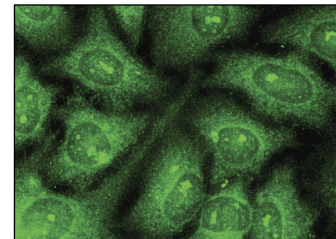
STORAGE

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

DATA



Glut4 (C-20): sc-1608. Western blot analysis of Glut4 expression in mouse skeletal muscle tissue extract.



Glut4 (C-20): sc-1608. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Wu-Wong, J.R., et al. 1999. Endothelin stimulates glucose uptake and Glut4 translocation via activation of endothelin ETA receptor in 3T3-L1 adipocytes. *J. Biol. Chem.* 274: 8103-8110.
2. Wang, Y., et al. 2010. Insulin and chromium picolinate induce translocation of CD36 to the plasma membrane through different signaling pathways in 3T3-L1 adipocytes, and with a differential functionality of the CD36. *Biol. Trace Elem. Res.* 142: 735-747.
3. Broderick, T.L., et al. 2010. Downregulation of oxytocin receptors in right ventricle of rats with monocrotaline-induced pulmonary hypertension. *Acta Physiol.* 200: 147-158.
4. Timmers, S., et al. 2010. Prevention of high-fat diet-induced muscular lipid accumulation in rats by α lipoic acid is not mediated by AMPK activation. *J. Lipid Res.* 51: 352-359.
5. Furugen, A., et al. 2011. AMP-activated protein kinase regulates the expression of monocarboxylate transporter 4 in skeletal muscle. *Life Sci.* 88: 163-168.
6. Berenguer, M., et al. 2011. Dimethyl sulfoxide enhances GLUT4 translocation through a reduction in GLUT4 endocytosis in insulin-stimulated 3T3-L1 adipocytes. *Biochimie* 93: 697-709.
7. Kim, S.S., et al. 2011. Exercise training and selenium or a combined treatment ameliorates aberrant expression of glucose and lactate metabolic proteins in skeletal muscle in a rodent model of diabetes. *Nutr. Res. Pract.* 5: 205-213.

MONOS
Satisfaction
Guaranteed

Try **Glut4 (IF8): sc-53566**, our highly recommended monoclonal alternative to Glut4 (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Glut4 (IF8): sc-53566**.