

# Glut6 (M-125): sc-134538

## BACKGROUND

The oxidation of glucose functions as the dominant source of metabolic energy for mammals. The plasma membrane is impermeable to glucose, so the cellular uptake of this important nutrient is achieved by facultative hexose transporters (Gluts). Gluts are integral membrane proteins that transport glucose and related hexoses. Glucose binds to a Glut on one side of the membrane which provokes a conformational change causing it to release glucose to the other side. Members of the Glut family may enhance the metabolic activity of tumor cells. Glut6 is part of the third out of three classes of Gluts. Glut6 is mainly expressed in the brain, spleen and peripheral leukocytes. It appears to be regulated by subcellular redistribution, because it is targeted to intracellular compartments by di-leucine motifs, recycling itself in a Dynamin-dependent manner.

## REFERENCES

- Bell, G.I., Kayano, T., Buse, J.B., Burant, C.F., Takeda, J., Lin, D., Fukumoto, H. and Seino, S. 1990. Molecular biology of mammalian glucose transporters. *Diabetes Care* 13: 198-208.
- Kayano, T., Burant, C.F., Fukumoto, H., Gould, G.W., Fan, Y.S., Eddy, R.L., Byers, M.G., Shows, T.B., Seino, S. and Bell, G.I. 1990. Human facilitative glucose transporters. Isolation, functional characterization, and gene localization of cDNAs encoding an isoform (Glut5) expressed in small intestine, kidney, muscle, and adipose tissue and an unusual glucose transporter pseudogene-like sequence (Glut6). *J. Biol. Chem.* 265: 13276-13282.
- Lisinski, I., Schürmann, A., Joost, H.G., Cushman, S.W. and Al-Hasani, H. 2001. Targeting of Glut6 (formerly Glut9) and Glut8 in rat adipose cells. *Biochem. J.* 358 (Pt. 2): 517-522.
- Joost, H.G. and Thorens, B. 2002. The extended Glut-family of sugar/polyol transport facilitators: nomenclature, sequence characteristics, and potential function of its novel members (review). *Mol. Membr. Biol.* 18: 247-256.
- Scheepers, A., Joost, H.G. and Schürmann, A. 2004. The glucose transporter families SGLT and Glut: molecular basis of normal and aberrant function. *JPEN J. Parenter Enteral. Nutr.* 28: 364-371.
- Kono, T., Nishida, M., Nishiki, Y., Seki, Y., Sato, K. and Akiba, Y. 2005. Characterisation of glucose transporter (Glut) gene expression in broiler chickens. *Br Poult Sci.* 46: 510-515.
- Macheda, M.L., Rogers, S. and Best, J.D. 2005. Molecular and cellular regulation of glucose transporter (Glut) proteins in cancer. *J. Cell Physiol.* 202: 654-662.
- Godoy, A., Ulloa, V., Rodríguez, F., Reinicke, K., Yañez, A.J., García, Mde L., Medina, R.A., Carrasco, M., Barberis, S., Castro, T., Martínez, F., Koch, X., Vera, J.C., Poblete, M.T., Figueroa, C.D., Peruzzo, B., Pérez, F. and Nualart, F. 2006. Differential subcellular distribution of glucose transporters Glut1-6 and Glut9 in human cancer: ultrastructural localization of Glut1 and Glut5 in breast tumor tissues. *J. Cell Physiol.* 207: 614-627.

## STORAGE

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

## CHROMOSOMAL LOCATION

Genetic locus: Slc2a6 (mouse) mapping to 2 A3.

## SOURCE

Glut6 (M-125) is a rabbit polyclonal antibody raised against amino acids 235-359 mapping within an internal region of Glut6 of mouse origin.

## PRODUCT

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

## APPLICATIONS

Glut6 (M-125) is recommended for detection of Glut6 of mouse and rat 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).

Suitable for use as control antibody for Glut6 siRNA (m): sc-60700, Glut6 shRNA Plasmid (m): sc-60700-SH and Glut6 shRNA (m) Lentiviral Particles: sc-60700-V.

Molecular Weight of Glut6: 55 kDa.

## 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.