SANTA CRUZ BIOTECHNOLOGY, INC.

Glut2 (m): 293T Lysate: sc-120518

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

1. Mueckler, M. 1994. Facilitative glucose transporters. Eur. J. Biochem. 219: 713-725.
2. McCall, A.L., Moholt-Siebert, M., VanBueren, A., Cherry, N.J., Lessov, N., Tiffany, N., Thompson, M., Downes, H. and Woodward, W.R. 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., Lyall, H. and Gould, G.W. 1995. Hypothalamic Glut 4 expression: a glucose- and Insulin-sensing mechanism? Mol. Cell. Endocrinol. 107: 67-70.
4. Kandror, K.V., Stephens, J.M. and Pilch, P.F. 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., Alm, R.A., McIntosh, S.R. and James, D.E. 1995. Molecular regulation of Glut4 targeting in 3T3-L1 adipocytes. J. Cell Biol. 130: 1081-1091.
6. Hajduch, E., Hainault, I., Meunier, C., Jardel, C., Hainque, B., Guerre-Millo, M. and Lavau, M. 1995. Regulation of glucose transporters in cultured rat adipocytes: synergistic effect of Insulin and dexamethasone on Glut4 gene expression through promoter activation. Endocrinology 136: 4782-4789.
7. Thorens, B. 1996. Glucose transporters in the regulation of intestinal, renal and liver glucose fluxes. Am. J. Physiol. 270: G541-G543.

CHROMOSOMAL LOCATION

Genetic locus: Slc2a2 (mouse) mapping to 3 A3.

PRODUCT

Glut2 (m): 293T Lysate represents a lysate of mouse Glut2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

Glut2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Glut2 antibodies. Recommended use: 10-20 µl per lane.

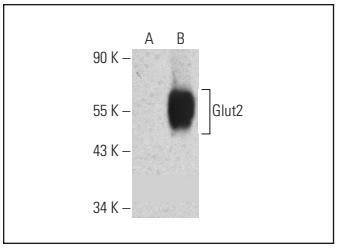
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Glut2 (C-10): sc-518022 is recommended as a positive control antibody for Western Blot analysis of enhanced human Glut2 expression in Glut2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Glut2 (C-10): sc-518022. Western blot analysis of Glut2 expression in non-transfected: sc-117752 (**A**) and mouse Glut2 transfected: sc-120518 (**B**) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.