

# Glut2 (C-19): sc-7580

## 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 Glut4 expression: a glucose- and Insulin-sensing mechanism? *Mol. Cell. Endocrinol.* 107: 67-70.
4. 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: SLC2A2 (human) mapping to 3q26.2; Slc2a2 (mouse) mapping to 3 A3.

## SOURCE

Glut2 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of Glut2 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-7580 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.

## RESEARCH USE

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

## APPLICATIONS

Glut2 (C-19) is recommended for detection of Glut2 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).

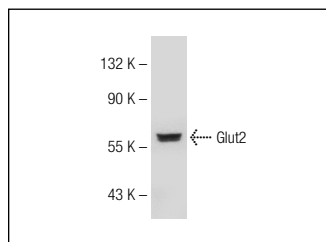
Glut2 (C-19) is also recommended for detection of Glut2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Glut2 siRNA (h): sc-35495, Glut2 siRNA (m): sc-35496, Glut2 shRNA Plasmid (h): sc-35495-SH, Glut2 shRNA Plasmid (m): sc-35496-SH, Glut2 shRNA (h) Lentiviral Particles: sc-35495-V and Glut2 shRNA (m) Lentiviral Particles: sc-35496-V.

Molecular Weight of Glut2: 60-62 kDa.

Positive Controls: mouse ovary extract: sc-2404, U-87 MG cell lysate: sc-2411 or mouse pancreas extract: sc-364244.

## DATA



Glut2 (C-19): sc-7580. Western blot analysis of Glut2 expression in mouse pancreas tissue extract.

## SELECT PRODUCT CITATIONS

1. Ronco, M.T., et al. 2004. Role of nitric oxide increase on induced programmed cell death during early stages of rat liver regeneration. *Biochim. Biophys. Acta* 1690: 70-76.
2. Eisenberg, M.L., et al. 2005. Insulin receptor (IR) and glucose transporter 2 (Glut2) proteins form a complex on the rat hepatocyte membrane. *Cell. Physiol. Biochem.* 15: 51-58.
3. Miettinen, P.J., et al. 2006. Downregulation of EGF receptor signaling in pancreatic islets causes diabetes due to impaired postnatal β cell growth. *Diabetes* 55: 3299-3308.
4. Wooding, F.B., et al. 2007. Glucose transporter 1 localisation throughout pregnancy in the carnivore placenta: light and electron microscope studies. *Placenta* 28: 453-464.
5. Hamasaki, A., et al. 2007. Adult pancreatic islets require differential PAX6 gene dosage. *Biochem. Biophys. Res. Commun.* 353: 40-46.
6. Calegari, V.C., et al. 2011. Endurance training activates AMP-activated protein kinase, increases expression of uncoupling protein 2 and reduces Insulin secretion from rat pancreatic islets. *J. Endocrinol.* 208: 257-264.