

Product Specification Sheet

Glucose Transporter 3 (Glut-3) Antibodies

Cat. # GT31-P	Mouse Glut-3 Control/blocking Peptide	SIZE: 100 ug
Cat. # GT31-A	Rabbit Anti-Mouse Glut-3 IgG (affinity pure)	SIZE: 100 ug
Cat. # GT31-S	Rabbit Anti-Mouse Glut-3 (antiserum)	SIZE: 100 ul

Most mammalian cells transport glucose through a family of membrane proteins known as glucose transporters. Molecular cloning of these glucose transporters has identified a family of closely related genes that encodes at least 7 proteins (**Glut-1 to Glut-13**, Mol. Wt. 40-80 kDa) and Sodium glucose co-transporter-1 (SGLT-1, 662 amino acids; ~75 kDa). Individual member of this family have identical predicted secondary structures with 12 transmembrane domains. Both N and C-termini are predicted to be cytoplasmic. Most differences in sequence homology exist within the four hydrophilic domains that may play a role in tissue-specific targeting. Glut isoforms differ in their tissue expression, substrate specificity and kinetic characteristics.

Glut-3 (mouse 493-aa) is the main transporter in neurons, whereas **Glut-4** is primarily expressed in muscle and adipose tissue and regulated by insulin.

FUNCTION: Facilitative glucose transporter. Probably a neuronal glucose transporter.

SUBCELLULAR LOCATION: Multi-pass membrane protein.

TISSUE SPECIFICITY: Highly expressed in brain.

SIMILARITY: Belongs to the major facilitator superfamily. Sugar transporter (TC 2.A.1.1) family. Glucose transporter subfamily [view classification]. Protein name Solute carrier family 2, facilitated glucose transporter member 3

Synonyms Glucose transporter type 3, brain, GLUT-3, Glut3

Gene name Slc2a3

Source of Antigen and Antibodies

Antigen	12-aa peptide from Mouse GT3 (protein accession #P32037, refs 1) ; Designation (GT31-P, control peptide or blocking peptide) conjugated to KLH; Epitope location ~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (# GT31-S) and IgG, purified over antigen-agarose (Cat # GT31-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder

Supplied in Buffer: 0.05% azide

Reconstitute powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder

Supplied in **Buffer:** PBS+0.1% BSA

Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder

Supplied in Buffer: PBS pH 7.5,

Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -200C and powder at 40C or -200C..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -200C or below.

Recommended Usage

Western Blotting (1:1K-5K for antiserum and 1-10 ug/ml for affinity pure IgG using Chemiluminescence technique). see refs 2.

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:1K-1-K).

Histochemistry: not tested. We recommend the use of affinity purified antibody at 2-10 ug/ml. see refs 2.

Specificity & Cross-reactivity

The mouse GT31 peptide sequence is 100% identical in rat. We have made anti-human Glut 3 specific for human Glut-3 (Cat # GT32-S). Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity.

General References: 1 . Gould, (1992) Diabetologia 35, 304-309; Nagamatsu et al., (1992) JBC 267, 467; Brant (1992) Biochem. Soc. Trans. 20, 235S-236S-403; see reviews by Baldwin, SA (1993) BBA 1154, 17-49; Mueckler, M (1994) Eur. J. Biochem. 219, 713-725.

(2) Citations of ADI's Antibodies (see web site for updated list)

Fattoretti, P, 2002, Ann. N.Y. Acad. Sci., 973: 293 - 296, , IHC, Merriman-Smith BR, 2003, Invest. Ophthalmol. Vis. Sci., 44: 3458
Fattoretti, P, 2001, J. Histochem. Cytochem. 49: 671, WB,, IHC, Cheng CM et al, 2001, FASEB J 15: 907-915, WB,, IHC, Choeiri C et al, 2002, Neuroscience 111, 19-34, , IHC, Grover-McKay, M et al, 1999, BBA 1416, 145-154, WB,, Stuart CA, 2000, AJPEM 2000 279: 855E-861E, WB,, IHC, Garcia MDL, 2003, J Neurochem. 86, 709-724, , IHC venge P, 2003, Respiratory Medicine 97, 1109-1119, , Medina RA, 2003, Endocrinology, 144: 4527 - 4535, WB,, IHC Shikhman AR, 2004, AJP Endocrinol Metab, 286: 980, WB, Gaster M, 2002, Eur J. Physiol. Sept 445, 105-114, , IHC Shikhman AR, 2001, J Immunol. 167, 7001-7008, WB,

*This product is for In vitro research use only.

GT31-S-A-P

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