

Product Specification Sheet

Glucose Transporter 1 (Glut-1) Antibodies

<input type="checkbox"/> Cat# GT11-P	Mouse Glut-1 Control/blocking Peptide	SIZE: 100 ug
<input type="checkbox"/> Cat# GT11-A	Rabbit Anti-Mouse Glut-1 IgG (aff pure)	SIZE: 100 ul
<input type="checkbox"/> Cat# GT11-S	Rabbit Anti-Mouse Glut-1 (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-1** mediates glucose transport into red cells, and throughout the blood brain barrier, and supply glucose to most cells.

FUNCTION: Facilitative glucose transporter. This isoform may be responsible for constitutive or basal glucose uptake has a very broad substrate specificity; can transport a wide range of aldoses including both pentoses and hexoses.

SUBCELLULAR LOCATION: Cell membrane; Multi-pass membrane protein (By similarity). Melanosome (By similarity). Note=Localizes primarily at the cell surface PTM: Phosphorylated upon DNA damage, probably by ATM or ATR **SIMILARITY:** Belongs to the major facilitator superfamily. Sugar transporter (TC 2.A.1.1) family.

Source of antigen and antibodies

Antigen	12-aa peptide Mouse GT11; (Gene Accession #P17809) Designation (GT11-P, control peptide)/blocking peptide conjugated to KLH; Epitope location- C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#GT11-S) and IgG, purified over antigen-agarose (Cat # GT11-A). Supplied in PBS 0.1% BSA/0.1% azide. Based upon specific antigen ELISA, antibody conc at A450=1.00 is ~0.5-1 mg/ml Supplied in PBS 0.1% BSA/0.1% azide
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100 ul solution lyophilized
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG

100 ul solution lyophilized
Supplied in Buffer: PBS+0.1% BSA+0.1% azide
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

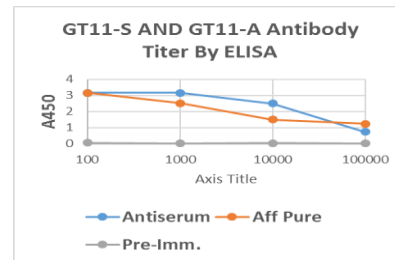
Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC.

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 -20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage



Western Blotting (1:1000-5000 for neat serum and 1:200-1:1000 for affinity pure using Chemiluminescence technique). An antibody made to this epitope has detected approx. 32 kDa protein in brown adipose tissues (3). See published refs 2.

ELISA (1:10K-1:100K;

using 50-100 ng control peptide/well).

Histochemistry & Immunofluorescence: We recommend the use of affinity purified antibody at 2-20 ug/ml in formaldehyde fixed tissue. See published refs 2.

Specificity & Cross-reactivity

Mouse GT11-P peptide sequence is 100% conserved in rat, human, rabbit, bovine, and pig Glut-1 and 90% in chicken. It has no significant sequence homology with other gluts. Antibody cross reactivity in various species is not known. 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 (see detailed protocol at: www.4adi.com/data/abblock.html).

General References: 1. Haspel ., (1986) JBC 263, 398; Birnbaum, (1986) 83, 5784. 2. Piper ., (1991) Am. J. Physiol. 260, C570. 3. Harris . (1992) PNAS 89, 7556; see reviews by Baldwin, SA (1993) BBA 1154, 17; Mueckler, M (1994) Eur. J. Biochem. 219, 713.

(2) Citations for ADI's Glut-1 (see updates at the web site)

Mekhail K 2004 Nature Cell Biology 6, 642 – 647, WB
Choeiri C 2005 Neuroscience, 130, 591-600, WB
Tong, H, 2000 JBC 2000 275: 11981-11986, wB
Choeiri C, 2002 Neuroscience 111, 19-34, IHC,
Gnudi L 2003 Hypertension, 42: 19 - 24., WB, IHC
Lewis MD 2004 Oncogene23, 2315 – 2323, WB
Gnudi L 2003 Hypertension. 42:19-24, WB, IHC
Gunaratnam L, 2003 JBC 278: 44966 – 44974, WB
Hansen WJ 2002 Mol. Cell. Biol. 22: 1947-1960 WB

**This product is for in vitro research use only.*

GT11-S-A-P 161122SV