ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Glucose Transporter 5 (Glut-5) Antibodies

□ Cat. # GT52-P	Human Glut-5 Control/blocking Peptide	**SIZE**: 100 ug
□ Cat. # GT52-A	Rabbit Anti-Human Glut-5 IgG (affinity pure)	**SIZE**: 100 ug
□ Cat. # GT52-S	Rabbit Anti-Human Glut-5 (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-5 (rat 502 aa; transports fructose in intestine and testis.
FUNCTION: Cytochalasin B-sensitive carrier. Seems to function primarily as a fructose transporter.
SUBCELLULAR LOCATION:; Multi-pass membrane protein.
TISSUE SPECIFICITY: Expressed in small intestine, and at much lower levels in kidney, skeletal muscle, and adipose tissue.
SIMILARITY: Belongs to the major facilitator superfamily. Sugar transporter (TC 2.A.1.1) family. Glucose transporter subfamily **Protein name** Solute carrier family 2, facilitated glucose transporter member 5 ; **Synonyms** Glucose transporter type 5, small intestine GLUT-5, Glut5, Fructose transporter ; **Gene name** Slc2a5

Source of Antigen and Antibodies

Antigen	13-aa peptide from Human **Glut-5 (protein accession #P22372, refs 1)**; **Designation (GT52-P, control peptide**) conjugated to KLH; **Epitope location**~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal Unpurified antiserum (cat #GT52-S) Aff pure IgG (**cat # GT52-A**)
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (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 -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 (1:1K-5K for antiserum and 1-10 ug/ml for affinity pure IgG using Chemiluminescence technique). Rat Glut-5 is ~ 60 kDa in rat jejunum membranes (2) that is slightly larger than that reported for human Glut 5 (50-55 kDa) (3). As opposed to human tissues, rat Glut-5 mRNA has not been detected in rat testis, adipose tissues, and skeletal muscle (2, 4). In rat kidney, a protein of about 42 kDa was detected (5).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry: not tested.

Specificity & Cross-reactivity

Human GT52 sequences shows about 61% homology with rat Glut-5 Antibody crossreactivity in various other species is not established. For rat Glut-5, we suggest the use GT51-S antibodies that are made to a peptide from rat Glut-5. 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** Rand, EB, et al (1993) Am. J. Physiol. 264, G1169-G1176; **2**. Inukai, K, et al (1993) Endocrinology 133, 2009-2014; **3.** Sheperd, PR, et al (1992) Diabetes 41, 1360-1365; **4**. Kayano, T, et al (1990) J Biol. Chem. 265, 13276-13282; Burant, F, et al (1992) J. Biol. Chem. 267, 14523-14526; **5**. Burant, CF and Saxena, M (1994) Am. J. Physiol. 267, G71-G79.

Citations of ADI's antibodies for Glut-5 (see update at the web)

Garcia MDL, 2003, J. Neurochem., 86: 709 - 724., WB?,
Garcia MDL, 2003, J. Neurochemistry 86, 3, 709-724, , IHC
venge P, 2003, Respiratory Med. 97, 1109-1119, ,
Shu h-J, 2006, Neuroscience in press, , IF

*This product is for In vitro research use only.

Antibodies for Glut 1-12 & SGLT-1-6

GT52-S-A-P 70911A

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