ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Glucose Transporter 7 (rGlut-7) Antibodies

Cat. # GT72-P	Rat Glut-7 Control/blocking Peptide #2	**SIZE**: 100 ug
Cat. # GT72-A	Rabbit Anti-Rat Glut-7 IgG # 2 (aff pure)	**SIZE**: 100 ug
Cat. # GT72-S	Rabbit Anti-Rat Glut-7 antiserum #2	**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 isoform differ in their tissue expression, substrate specificity and kinetic characteristics.

Glut-7 (rat 528-aa), expressed in liver and other gluconeogenic tissues, mediates glucose flux across endoplasmic reticulum membrane.

Source of Antigen and Antibodies

Antigen	12-aa peptide from rat **Glut-7 (protein accession #S24344; refs 1)**; **Designation (GT72-P, control peptide)**; conjugated to KLH; **Epitope location**~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal Unpurified antiserum (cat #GT72-S) Aff pure IgG (**cat # GT72-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).

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

Rat GT72 sequence is 63% identical in human Glut-7. However, Glut-7 contains an extra 6 amino acid (KKMKND) at the C-terminal end. This sequence is very similar to the last 6 amino acids of some of the mircosomal UDP-glucoronosyltransferase isoenzymes (see refs. 1 and other refs. Cited therein). The KK-K-- has been considered motif for the retention of transmembrane proteins (3) and is not found in Gluts 1-5. The crossreactivity of anti-rat GT71 antibody to other proteins with an endoplasmic reticulum motif and species crossreactivity has not been determined. 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**. Waddell. I.D., et al (1992) Biochem. J. 286, 173-177 & (1991) Biochem. J. 275, 363-377; 3. Jackson, M.R., et al (1990) EMBO J., 9, 3153-3162.

Citations of for Glut antibodies (see updated list at the web site)

Manolescu A 2005 J. Biol. Chem., 280: 42978 - 42983.
WB IHC

Li Q 2004 Am J Physiol Gastrointest Liver Physiol, 287, G236-G242 WB, IF

*This product is for In vitro research use only.

Related material available from ADI

Antibodies for Glut 1-13 & SGLT-1/2

GT72-S-A-P 70912A

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