GENTAUR

DATA SHEET

Product Specification Sheet

Glucose Transporter 10 (Glut-10) Antibodies

Cat. # GT101-P	Human Glut-10 Control/blocking Peptide	**SIZE**: 100 ug
Cat. # GT101-A	Rabbit Anti-Human Glut-10 IgG (aff pure)	**SIZE**: 100 ug
Cat. # GT101-S	Rabbit Anti-Human Glut-10 (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-7**, Mol. Wt. 40-60 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.

Human **Glut-10** (541 aa, chromosome 20q13.1; ~30-35% homology with Glut-3 and Glut-8) has been identified as a candidate gene for NIDDM susceptibility. It is widely expressed with highest levels in liver and pancreas.
FUNCTION: Facilitative glucose transporter.
BIOPHYSICOCHEMICAL PROPERTIES:
Kinetic parameters: KM=0.28 mM for 2-deoxy-D-glucose;
SUBCELLULAR LOCATION: Intracytoplasmic membrane; Multi-pass membrane protein. Cytoplasm, perinuclear region.
TISSUE SPECIFICITY: Widely expressed; highest levels in liver and pancreas.
DISEASE: Defects in SLC2A10 are the cause of arterial tortuosity syndrome (ATS) [MIM:208050]. ATS is an autosomal recessive disorder characterized by tortuosity and elongation of major arteries, often resulting in death at young age. Other typical features include aneurysms of large arteries and stenosis of the pulmonary artery, in association with facial features and several connective tissue manifestations such as soft skin and joint laxity. Histopathological findings include fragmentation of elastic fibers in the tunica media of large arteries.
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 10; Glucose transporter type 10; GLUT-10, GLUT10; **Gene name** : SLC2A10

Source of Antigen and Antibodies

Antigen	16-aa peptide from **Human Glut-10 (protein accession #O95528, refs 1)** (1); **Designation (GT101-P, control peptide or control peptide).**conjugated to KLH; **Epitope location**~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#GT101-S) and IgG, purified over antigen-agarose (Cat # GT101-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

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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 neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique.

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence. We recommend the use of affinity purified antibody at 10-30 ug/ml in formaldehyde fixed, paraffin-embedded tissues (1).

Specificity & Cross-reactivity

Human GT101-P peptide sequence is 53% conserved in mouse Glut-10. No significant sequence homology with other gluts. Antibody crossreactivity in various species is not established. 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 the web site).

General References: **1**. McVie-Wylie, et al (2001) Genomics 72, 113-117; Dawson PA et al (2001) Mol Genet. Metab. 74, 186-199.

Citations of for Glut-2 (see updated list at the web site)
*This product is for In vitro research use only.

Related material available from ADI
Antibodies for Glut 1-14 & SGLT-1/2
GT101-S-A-P 71214J

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