

Product Specification Sheet

Glucose Transporter 12 (Glut-12) Antibodies

Cat. # GT122-P	Human Glut-12 Control/blocking Peptide	SIZE: 100 ug
Cat. # GT122-A	Rabbit Anti-Human Glut-12 IgG (affinity pure)	SIZE: 100 ug
Cat. # GT122-S	Rabbit Anti-Human Glut-12 (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-12 (human 617 aa, monkey 621 aa; ~50 kDa; ~30% homology with Glut-4 and 40% with Glut-10) is expressed in skeletal muscle, adipose tissue, and small intestine.

FUNCTION: Facilitative glucose transporter

SUBCELLULAR LOCATION: Intracytoplasmic membrane; Multi-pass membrane protein. Cytoplasm, perinuclear region. Note=Localizes primarily perinuclear region in the absence of insulin.

TISSUE SPECIFICITY: Predominantly expressed in skeletal muscle, heart and prostate, with lower levels in brain, placenta and kidney. PTM: N-glycosylated

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 12, Synonyms Glucose transporter type 12, GLUT-12, Gene name Name: SLC2A12, Synonyms: GLUT12, GLUT8

Source of Antigen and Antibodies

Antigen	15-aa peptide from Human GT122 ; (Gene Accession #Q7Z6U3, refs 1) Designation (GT122-P, control peptide) conjugated to KLH; Epitope location ~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal Unpurified antiserum (cat # GT122-S) Aff pure IgG (cat # GT122-A) purified over antigen-agarose column
2-ab	Anti-rabbit IgG-HRP cat # 20320 (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)

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. We recommend the use of affinity purified antibody at 2-10 ug/ml.

Specificity & Cross-reactivity

Human GT122-P peptide sequence is 100% conserved in monkey Glut-12, mouse (71%) and rat (69%.. 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.

General References: 1. Doege H et al (2001) Biochem J. 359, 443-459.

Citations of ADI's antibodies for Glucose transporters (see updated list at the web site.

*This product is for In vitro research use only.

Related material available from ADI

Antibodies for Glut 1-11 & SGLT-1/2
GT122-S-A-P 70912A