

Product Specification Sheet

Human Glut-1 Antibodies

Cat. # GT14-P	Human Glut-1 control peptide # 1	SIZE: 100 ug
Cat. # GT14-A	Rabbit Anti-Human Glut-1 IgG # 1 (aff pure)	SIZE: 100 ug

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-Glut-14**, 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.

Human Glut-1 (GTR1, 492 aa, mol wt ~50-55 kDa, chromosome 1p35-p31.3) belongs to Solute carrier family 2, facilitated glucose transporter member 1 (Slc2A1, Glucose transporter type 1, erythrocyte/brain) or HepG2 glucose transporter. It is a cell membrane; multi-pass membrane protein localizes primarily at the cell surface. Glut-1 has a very broad substrate specificity; can transport a wide range of aldoses including both pentoses and hexoses. Glut-1 mediates glucose transport into red cells, and throughout the blood brain barrier, and supply glucose to most cells.

Source of Antigen and Antibodies

Antigen	15-aa peptide from Human Glut-1 (gene accession # P11166 Designation (GT14-P, control peptide) conjugated to KLH
Location	~N-terminus, Extracellular domain
Ab Host/type	Rabbit, Polyclonal Aff pure IgG (cat # GT14-A) purified over antigen-agarose column
2-ab	Goat 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

Recommended Usage

Western Blotting (1-10 ug/ml for affinity pure antibody using ECL technique). (refs 2)

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

Histochemistry & Immunofluorescence: (see refs 2). We recommend the use of aff pure IgG at 2-20 ug/ml.

Specificity & Cross-reactivity

The GT14-P control peptide shows 100% homology in human, rat

(80%), rabbit (86%), pig (80%), and 73% in bovine and mouse. No significant homology is detected with other species. 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: Haspel et al., (1986) J. Biol. Chem. 263, 398-403; Birnbaum, et al., (1986) 83, 5784-5788. 2. Piper et al., (1991) Am. J. Physiol. 260, C570-C580. 3. Harris et al. (1992) Proc. Natl. Acad. Sci. 89, 7556-7560.; see reviews by Baldwin, SA (1993) Biochem. Biophys. Acta 1154, 17-49; Mueckler, M (1994) Eur. J. Biochem. 219, 713-725.

(2) Citations of ADI's Antibodies for NRAMP2

Please search for Gllut1 and consult the publications for additional guidance on antibody concn, and other technique.

www.4adi.com/serach.php

*This product is for In vitro research use only.

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 -200C and powder at 40C 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: 40C for solutions and room temp for powder

Related material available from ADI

Antibodies and Peptides: Glucose transport family (GT 1-13).

GT14-A-P

70501A

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