

Product Specification Sheet

Mouse Monoclonal Anti-Human Glut-1

Cat. # GT15-M

Mouse monoclonal anti-human Glut-1 IgG #5

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 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-1** mediates glucose transport into red cells, and throughout the blood brain barrier, and supply glucose to most cells.

FUNCTION: Facilitative glucose transporter. This isoform may be responsible for constitutive or basal glucose uptake. Has a very broad substrate specificity; can transport a wide range of aldoses including both pentoses and hexoses.

SUBCELLULAR LOCATION: Cell membrane; Multi-pass membrane protein (By similarity). Melanosome (By similarity). Note=Localizes primarily at the cell surface

PTM: Phosphorylated upon DNA damage, probably by ATM or ATR

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 1 ; Synonyms Glucose transporter type 1, erythrocyte/brain; GLUT-1, GT1, Glut1, Gene name : Slc2a1

Source of Antigen and Antibodies

Antigen	Recombinant Human glut-1 protein; epitope location ~ Extracellular domain
Ab Host/type	Mouse monoclonal, IgG2b, Protein A/G pure (cat #GT15-M)
2-ab	Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG

100 ug/100ul solution 50 ug/50 ul lyophilized powder

Buffer: PBS, pH 7.5; no preservative

Reconstitute in PBS at 1mg/ml

Storage

Short-term: unopened, undiluted liquid vials for less than a week at 4oC.

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 (1-5 ug/ml of affinity pure IgG using Chemiluminescence technique). It is recommended not to heat the samples prior to loading to prevent gluts aggregation. Human liver tumor cells (HepG2) can be used as positive control.

Histochemistry: We recommend the use of affinity purified antibody at 5-20 ug/ml in 4% PF fixed paraffin embedded sections.

Flow cytometry: recommended conc is ~10 ug antibody per ml (1 million cells). Perform the antibody binding in small volume of ~200 ul.

Specificity & Cross-reactivity

Antibody cross-reactivity in various species is not known. We also supply other polyclonal antibodies made to the mouse, rat, and human glut-1 (see the web site for a complete listing).

General References: 1. Haspel et al., (1986) JBC 263, 398; Birnbaum, et al., (1986) 83, 5784. 2. Piper et al., (1991) Am. J. Physiol. 260, C570. 3. Harris et al. (1992) PNAS 89, 7556; see reviews by Baldwin, SA (1993) BBA 1154, 17; Mueckler, M (1994) Eur. J. Biochem. 219, 713.

*This product is for In vitro research use only.

Related material available from ADI

Antibodies for Glut 1-11 & SGLT-1/-6

GT15-M

70911A

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