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Product Specification Sheet

Mouse Monoclonal Anti-Human Glut-5

Cat. # GT53-M Mouse monoclonal anti-Human Gllut-5 IgG #3 **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-5 (rat 502 aa; transports fructose in intestine and testis.
FUNCTION: Cytochalasin B-sensitive carrier. Seems to function primarily as a fructose transporter.
SUBCELLULAR LOCATION:; Multi-pass membrane protein.
TISSUE SPECIFICITY: Expressed in small intestine, and at much lower levels in kidney, skeletal muscle, and adipose tissue.
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 5 ; **Synonyms** Glucose transporter type 5, small intestine GLUT-5, Glut5, Fructose transporter ; **Gene name** Slc2a5

Source of Antigen and Antibodies

Antigen	Recombinant Human glut-5 protein; epitope location ~ Extracellular domain
Ab Host/type	Mouse monoclonal, IgG2a Protein A/G pure (cat #GT53-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 the original vol. of water

Storage

Short-term: unopened, undiluted 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. Load ~50-100 ug total membrane proteins/lane. Appropriate human tissues or human microglial cells or other appropriate cells cab be used as positive controls. See published refs 2.

Histochemistry: We recommend the use of affinity purified antibody at 5-20 ug/ml in 4% Para formaldehyde, 0.15% picric acid for 20 min, and then permeabilized with 0.1% Triton X-100. See published refs 2.

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

Antibody concentration must be optimized for each application under defined experimental conditions.

Specificity & Cross-reactivity

GT53-M antibody cross-reacts with human glut-5. Other species not tested. We also supply other polyclonal antibodies made to the mouse, rat, and human glut-5 (see the web site for a complete listing).

General References: **1** Rand, EB, et al (1993) Am. J. Physiol. 264, G1169-G1176; **2**. Inukai, K, et al (1993) Endocrinology 133, 2009-2014; **3.** Sheperd, PR, et al (1992) Diabetes 41, 1360-1365; **4**. Kayano, T, et al (1990) J Biol. Chem. 265, 13276-13282; Burant, F, et al (1992) J. Biol. Chem. 267, 14523-14526; **5**. Burant, CF and Saxena, M (1994) Am. J. Physiol. 267, G71-G79.

Citations of ADI's antibodies for Glut-5 (see update at the web)

Garcia MDL, 2003, J. Neurochem., 86: 709 - 724., WB?,
Garcia MDL, 2003, J. Neurochemistry 86, 3, 709-724, , IHC
venge P, 2003, Respiratory Med. 97, 1109-1119, ,
Shu h-J, 2006, Neuroscience in press, , IF

*This product is for In vitro research use only.

Related material available from ADI

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

GT53-M 70911A

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