ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Rat Monoclonal Anti-Mouse Glut-2

Cat. # GT24-M Rat monoclonal anti-Mouse Gllut-2 IgG #4 **SIZE**: 100 ug

FORM: Soln Lyophilized

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. **Glut-2** provides glucose to the liver and pancreatic cells. **Glut-3** is the main transporter in neurons, whereas **Glut-4** is primarily expressed in muscle and adipose tissue and regulated by insulin. **Glut-5** transports fructose in intestine and testis. **Glut-6** is a pseudoegene and unlikely to be expressed at the protein level. **Glut-7**, expressed in liver and other gluconeogenic tissues, mediates glucose flux across endoplasmic reticulum membrane. **Glut-8** is found in adult testis and placenta. Human **Glut-9** is expressed in spleen, peripheral leucocytes and brain. 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. **Glut-11** (496 aa, chromosome 22q11.2; ~41% identity with Glut-5) is expressed in heart and skeletal muscle. **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 .

Source of Antigen and Antibodies

Antigen	Recombinant mouse glut-2 protein
Ab Host/type	Rat monoclonal, IgG2b
Epitope	extracellular
Ab Format	Protein A/G pure (cat #GT24-M)
-ve control	Cat # 20005-1, Rat (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	50 ug/50 ul
solution	lyophilized powder

Buffer: PBS, pH 7.5; no preservative

Reconstitute in PBS at 1 mg/ml

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. Mouse tissues or mouse insulinoma beta TC-6 cells can be used as positive control.

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

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

Antibody cross-reactivity in various species is not known. We also supply other polyclonal antibodies made to the mouse, rat, and human glut-2 (see the web site for a complete listing).

General References: **1.** Fukumoto, H., et al (1988) Proc. Natl. Acad. Sci. 85, 5434-5438; Thorens, B, et al (1988) Cell, 55, 281-290; 2. Asano, T et al (1989) Nucleic Acid Res. 17, 6386; Suzue, K., et al (1989) Nucleic Acid Res. 17, 10099.

Citations of ADI's antibodies for Glucose transporters (see updated list at: www.4adi.com\flr\glutsflr.html)

*This product is for In vitro research use only.

Related material available from ADI

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

GT24-M 70419A

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