

Product Specification Sheet

Mouse Monoclonal Anti-Human Glut-3

Cat. # GT34-M

Mouse monoclonal anti-human Glut-3 IgG #4

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-3 (human 496-aa), mouse 493-aa) is the main transporter in neurons, whereas **Glut-4** is primarily expressed in muscle and adipose tissue and regulated by insulin.

FUNCTION: Facilitative glucose transporter. Probably a neuronal glucose transporter.

SUBCELLULAR LOCATION:; Multi-pass membrane protein.

TISSUE SPECIFICITY: Highly expressed in brain.

SIMILARITY: Belongs to the major facilitator superfamily. Sugar transporter (TC 2.A.1.1) family. Glucose transporter subfamily [view classification]. Protein name Solute carrier family 2, facilitated glucose transporter member 3

Synonyms Glucose transporter type 3, brain, GLUT-3, Glut3

Gene name Slc2a3

Source of Antigen and Antibodies

Antigen	Recombinant Human glut-3 protein; epitope location ~ Extracellular
Ab Host/type	Mouse monoclonal, IgG2b Protein A/G pure (cat #GT34-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

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

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.

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-3 (see the web site for a complete listing).

General References: 1.Kayano, T., et al (1988) J. Biol. Chem. 263, 15245-15248; Gould et al., (1992) Diabetologia 35, 304-309; Nagamatsu et al., (1992) J. Biol. Chem. 267, 467-472; Brant et al, (1992) Biochem. Soc. Trans. 20, 235S-236S-403; see reviews by Baldwin, SA (1993) Biochim. Biophys. Acta 1154, 17-49; Mueckler, M (1994) Eur. J. Biochem. 219, 713-725.

(2) Citations of ADI's Antibodies (see web site for updated list)

Fattoretti, P, 2002, Ann. N.Y. Acad. Sci., 973: 293 - 296, , IHC, Merriman-Smith BR, 2003, Invest. Ophthalmol. Vis. Sci., 44: 3458
Fattoretti, P, 2001, J. Histochem. Cytochem. 49: 671, WB,, IHC, Cheng CM et al, 2001, FASEB J 15: 907-915, WB,, IHC, Choeiri C et al, 2002, Neuroscience 111, 19-34, , IHC, Grover-McKay, M et al, 1999, BBA 1416, 145-154, WB,, Stuart CA, 2000, AJPEM 2000 279: 855E-861E, WB,, IHC, Garcia MDL, 2003, J Neurochem. 86, 709-724, , IHC venge P, 2003, Respiratory Medicine 97, 1109-1119, , Medina RA, 2003, Endocrinology, 144: 4527 - 4535, WB,, IHC Shikhman AR, 2004, AJP Endocrinol Metab, 286: 980, WB, Gaster M, 2002, Eur J. Physiol. Sept 445, 105-114, , IHC Shikhman AR, 2001, J Immunol. 167, 7001-7008, WB,

*This product is for In vitro research use only.

Related material available from ADI

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

GT34-M

70911A

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