

Glucose transporter (Glut) Antibodies

Rat Anti-glucose transporter 3 (Glut-3) antibodies Cat # Glut-300P, Glut-301AP and PC-Glut 3.

Seven types of glucose transport carrier proteins designated as Glut 1-7 facilitate glucose transport across the cell membrane. Molecular cloning of glucose transporters have identified a family of closely related genes that encodes at least 7 proteins exhibiting high degree of amino acid homology (45%-65%) all in the molecular weight range of 40-60 kDa. Individual members of the Glut family have predicted secondary structure characteristic of 12 membrane spanning domains of other transport carriers. Majority of the differences in sequence homology in Glut proteins occur at 4 hydrophilic domains that may play a role in distinct tissue-specific pattern of expression and targeting. All Glut proteins are glycosylated at or near the C-terminus and are present on either cell surface or in intracellular sites. Some transporters exhibit dynamic trafficking between intracellular storage sites and plasma membranes in response to various stimuli. In some tissues Glut proteins are asymmetrically distributed between apical and basolateral membranes as in blood brain barrier and blood testis barriers.

The Glut family-selective antibodies were generated against unique C-terminal peptides characteristics of a particular Glut family.

FabGennix Inc. has generated highly specific rabbit anti-Glut 3 polyclonal antibodies utilizing C-terminal sequences. These antibodies have been fully characterized for cross reactivity with in the Glut family and with other cellular proteins.

FabGennix Inc. has produced antibodies to multiple epitopes on

the same protein that will facilitate studies utilizing interspecies cross reactivity.

FabGennix Inc. provides Glut 3 Western blot positive control in "ready to use" SDS-PAGE sample buffer. The Glut 3 positive control appears as a diffuse band of 45-47 kDa and co-migrates with rat brain Glut 3 protein on a 10% SDS-PAGE.

Transporter	Distribution (1)
Glut 1	ubiquitous; RBC, microvasculature of brain etc.
Glut 2	hepatic cells, pancreas, intestine, kidney
Glut 3	neuronal, testicular germ cells (2), adipose cells, Coca cells etc.
Glut 4	adipocyte, skeletal muscle and other insulin sensitive cells
Glut 5	intestine (jejunum), lesser amount in adipocyte, brain, muscle & kidney
Glut 7	hepatocytes & gluconeogenic tissues
SGLT	intestinal and kidney epithelium

Catalog #	Description	Antigen/Positive control	Cross reactivity	Price
Glut-300P	Anti-Glut 3 antibodies serum	[C]SIEPAKETTNNV	R, M	195/100µl
Glut-301AP	Anti-Glut 3 antibodies affinity purified		R, M	225/100µg
PC-Glut 3	Anti-Glut 3 Positive control	Partially purified Glut 3 protein	R, M	175/5 appl

R = rat; M = mouse; H = humans; R = rabbit; appl = applications

Applications:

ELISA

Antibody dilution 1:25,000 for ELISA or DOT blot with solubilized hippocampal plasma membranes.

WB

Antibody dilution 1:8,000 for WB using 10 µg hippocampal plasma membranes as antigen.

IMM

2 µl of Glut-301AP or 2.5 µl of Glut-300P will immunoprecipitate 80-85% Glut 3 from 250 µg rat solubilized hippocampal membranes.

IHC

1:250 dilution

Reactivity

The antibodies (Glut-300P and Glut-301AP) label glucose transporter (Glut 3) species from rat brain, C12 cells, rat testicular germ cells as an average 45-47 kDa molecular weight protein.

Protocols:

Standard protocol for various applications (Western blot; immunoprecipitation and immunohistochemistry) of this antibody is provided with the product specification sheet, however, FabGennix Inc. strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.

WB, Western Blot analyses; IMM, Immunoprecipitation; IHC, Immunohistochemistry.

Form/Storage:

The antiserum is supplied in antibody stabilization buffer with 0.02% sodium azide. The purified antibodies are isolated from immobilized antigen-sepharose affinity column. The affinity pure antibodies are supplied as 0.5-1 mg/ml IgG in antibody stabilization buffer. For long-term storage, keep at -20°C. FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45µ syringe filter after every use for long-term storage.

References:

1. Meuckler M. M. NIPS, 10, 22-29, 1995.
2. Farooqui S. M., Bagdadi A. F., Rhett S., and O'Donnell J. M., Biochem. Biophys. Res. Comm. 236, 407-412, 1997.

***Note: Do not heat or boil Glut 1-PC samples. This product is "ready to use" for electrophoresis. After thawing at room temperature. Repeated freezing and thawing may result in appearance of higher molecular weight immunoreactive bands.**

*** For users who may require large amounts of Glut-300P/301AP, please enquire about bulk material discounts.**

This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

0211-020SF1020-rev10.01

