SANTA CRUZ BIOTECHNOLOGY, INC.

p-Glut4 (Ser 488): sc-17558

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glucose is fundamental to the metabolism of mammalian cells. Glucose is transported across cell membranes by a family of glucose transporter proteins (Gluts). Glut4 is a glucose transporter isoform that is expressed in heart, muscle and fat. Uptake of glucose in these tissues is primarily mediated by the redistribution of Glut4 to the cell surface from intracellular membranes. In response to Insulin, Glut4 is quickly shuttled from an intracellular storage site to the plasma membrane where it binds glucose. Glut4 is phosphorylated *in vivo,* and its phosphorylation site is mapped to a Serine residue at position 488 within its cytoplasmic carboxy-terminal tail. Ser 488 is immediately adjacent to a dileucine motif (Leu-489Leu-490), which plays an important role in targeting intracellular Glut4 in adipocytes. Ser 488 is phosphorylated by cAMP-dependent kinase *in vitro* and in response to isoproterenol *in vivo.* In conclusion, phosphorylation of Ser 488 of Glut4 may play a role in intracellular sorting at the trans-Golgi network, but it does not play a major role in the regulated translocation of Glut4 to plasma membrane.

CHROMOSOMAL LOCATION

Genetic locus: SLC2A4 (human) mapping to 17p13.1; Slc2a4 (mouse) mapping to 11 B3.

SOURCE

p-Glut4 (Ser 488) is available as either goat (sc-17558) or rabbit (sc-17558-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 488 phosphorylated Glut4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17558 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-Glut4 (Ser 488) is recommended for detection of Ser 488 phosphorylated Glut4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-Glut4 (Ser 488) is also recommended for detection of correspondingly Glut4 in additional species, including equine, canine, bovine and porcine.

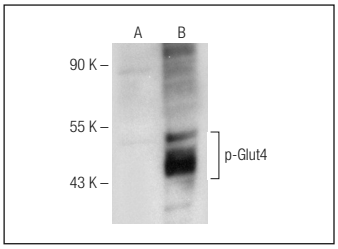
Suitable for use as control antibody for Glut4 siRNA (h): sc-41220, Glut4 siRNA (m): sc-41221, Glut4 siRNA (r): sc-270138, Glut4 shRNA Plasmid (h): sc-41220-SH, Glut4 shRNA Plasmid (m): sc-41221-SH, Glut4 shRNA Plasmid (r): sc-270138-SH, Glut4 shRNA (h) Lentiviral Particles: sc-41220-V, Glut4 shRNA (m) Lentiviral Particles: sc-41221-V and Glut4 shRNA (r) Lentiviral Particles: sc-270138-V.

Molecular Weight of p-Glut4: 50-63 kDa.

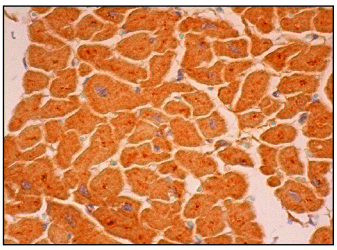
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-17558): use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), for rabbit primary antibody (sc-17558-R): use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as, Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: for goat primary antibody (sc-17558): use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941, for rabbit primary antibody (sc-17558-R): use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: for goat primary antibody (sc-17558): use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems, for rabbit primary antibody (sc-17558-R): use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



p-Glut4 (Ser 488)-R: sc-17558-R. Western blot analysis of Glut4 phosphorylation in non-transfected (**A**) and human Glut4 transfected (**B**) HEK293T whole cell lysates.



p-Glut4 (Ser 488)-R: sc-17558-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Rajesh, P., et al. 2013. Phthalate is associated with Insulin resistance in adipose tissue of male rat: role of antioxidant vitamins. J. Cell. Biochem. 114: 558-569.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.