

Anti-Glucose Transporter GLUT4/SLC2A4 Antibody Picoband™

Catalog Number: PB9109

About SLC2A4

GLUT4, also known as SLC2A4 or solute carrier family 2 (facilitated glucose transporter) member 4, is a protein that in humans is encoded by the GLUT4 gene. It is mapped to 17p13.1. This gene is a member of the solute carrier family 2 (facilitated glucose transporter) family and encodes a protein that functions as an insulin-regulated facilitative glucose transporter. In the absence of insulin, this integral membrane protein is sequestered within the cells of muscle and adipose tissue. Within minutes of insulin stimulation, the protein moves to the cell surface and begins to transport glucose across the cell membrane. Mutations in this gene have been associated with noninsulin-dependent diabetes mellitus (NIDDM).

Overview

Product Name	Anti-Glucose Transporter GLUT4/SLC2A4 Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Glucose Transporter GLUT4/SLC2A4 Antibody Picoband™ catalog # PB9109. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P14672

Technical Details

Immunogen	E.coli-derived human GLUT4 recombinant protein (Position: N333-D509). Human GLUT4 shares 97% amino acid (aa) sequence identity with mouse GLUT4.
Predicted Reactive Species	Bovine, Horse, Monkey, Rabbit
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and IHC(F).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.

Purification	Immunogen affinity purified.
Suggested Dilutions	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>Immunohistochemistry (Frozen Section), 0.5-1ug/ml, Mouse, Rat, -</p> <p>Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat, By Heat</p> <p>Western blot, 0.1-0.5ug/ml, Rat, Human</p>

Anti-Glucose Transporter GLUT4/SLC2A4 Antibody Picoband™ (PB9109) Images

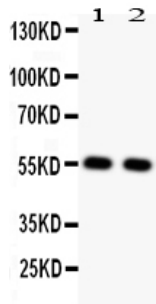


Figure 1. Western blot analysis of GLUT4 using anti-GLUT4 antibody (PB9109).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.

lane 1: rat cardiac muscle tissue lysate,
lane 2: rat skeletal muscle tissue lysate.

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GLUT4 antigen affinity purified polyclonal antibody (Catalog # PB9109) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for GLUT4 at approximately 55KD. The expected band size for GLUT4 is at 55KD.

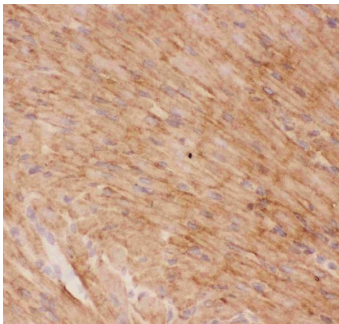


Figure 2. IHC analysis of GLUT4 using anti-GLUT4 antibody (PB9109).

GLUT4 was detected in frozen section of rat cardiac muscle tissues. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-GLUT4 Antibody (PB9109) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

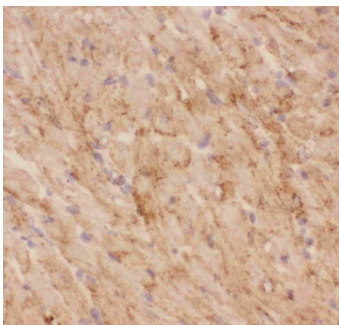
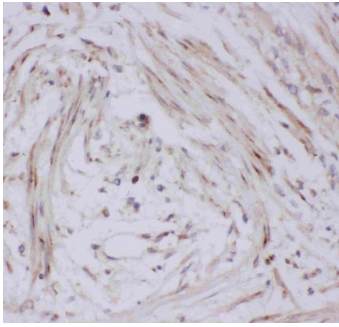


Figure 3. IHC analysis of GLUT4 using anti-GLUT4 antibody (PB9109).

GLUT4 was detected in frozen section of mouse cardiac muscle tissues. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-GLUT4 Antibody (PB9109) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

Figure 4. IHC analysis of GLUT4 using anti-GLUT4 antibody (PB9109).

GLUT4 was detected in paraffin-embedded section of human intestinal cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-GLUT4 Antibody (PB9109).



overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

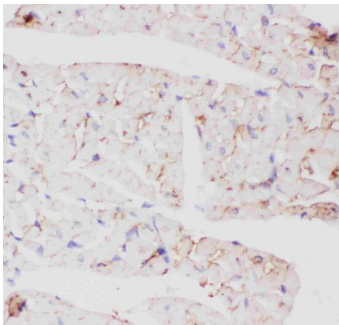


Figure 5. IHC analysis of GLUT4 using anti-GLUT4 antibody (PB9109).

GLUT4 was detected in paraffin-embedded section of rat cardiac muscle tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-GLUT4 Antibody (PB9109) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

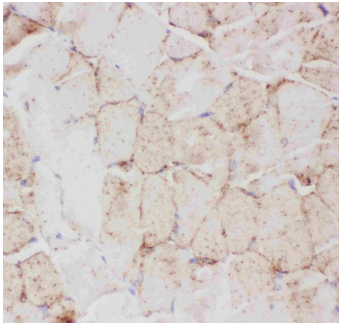


Figure 6. IHC analysis of GLUT4 using anti-GLUT4 antibody (PB9109).

GLUT4 was detected in paraffin-embedded section of mouse skeletal muscle tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-GLUT4 Antibody (PB9109) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

8 Publications Citing This Product

1. PubMed ID: PMID:26550236, Vibration exercise decreases insulin resistance and modulates the insulin signaling pathway in a type 2 diabetic rat model
2. PubMed ID: 10.1039/C6RA17654B, Microwave-assisted synthesis of chitooligosaccharide guanidine and its effect on GLUT4-dependent glucose uptake through an Akt-activated protein kinase signaling pathway in L6 skeletal muscle cells
3. PubMed ID: 10.1016/j.anireprosci.2019.05.006, Effect of maternal feed restriction in dairy goats at different stages of gestation on skeletal muscle development and energy metabolism of kids at the time of births

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