Anti-Glucose Transporter GLUT4 Antibody [3-A10] M1505-6

Product Type:	Mouse monoclonal IgG1, primary antibodies
Species reactivity:	Human, Mouse
Applications:	WB, IF-Cell, IHC-P
Molecular Wt:	Predicted band size: 55 kDa
Clone number:	3-A10

Description: GLUT4 is the insulin-regulated glucose transporter found primarily in adipose tissues and striated muscle (skeletal and cardiac) that is responsible for insulin-regulated glucose transport into the cell. Under conditions of low insulin, GLUT4 is sequestered in intracellular vesicles in muscle and fat cells. Insulin induces a rapid increase in the uptake of glucose by inducing the translocation of GLUT4 from these vesicles to the plasma membrane. Muscle contraction stimulates muscle cells to translocate GLUT4 receptors to their surfaces. This is especially true in cardiac muscle, where continuous contraction can be relied upon; but is observed to a lesser extent in skeletal muscle.

Immunogen: Synthetic peptide with Human Glucose Transporter GLUT4 aa 460-509 / 509.

Positive control: NIH/3T3, Hela, HepG2, human kidney tissue, mouse skeletal muscle tissue, mouse kidney tissue, mouse heart tissue.

Subcellular location: Cell membrane, Endomembrane system, Cytoplasm, perinuclear region.

Database links: SwissProt: P14672 Human | P14142 Mouse

Recommended Dilutions:

WB	1:2,000-1:5,000
IF-Cell	1:100-1:200
IHC-P	1:100-1:200

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Immunogen affinity purified.

Images

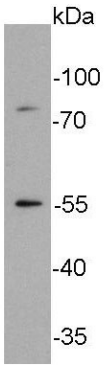

Fig1: Western blot analysis of Glucose Transporter GLUT4 on NIH/3T3 lysate. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody was used at a 1:2,000 dilution in 5% BSA at room temperature for 2 hours. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1:5,000 dilution was used for 1 hour at room temperature.

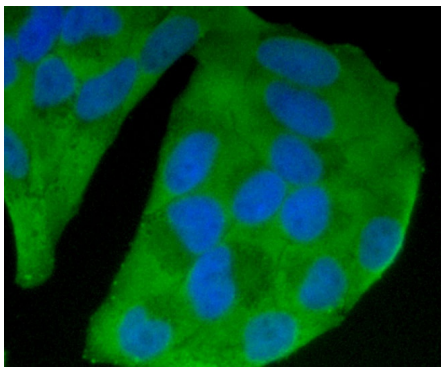

Fig2: ICC staining Glucose Transporter GLUT4 in Hela cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA for 15 minutes at room temperature. Cells were probed with Glucose Transporter GLUT4 monoclonal antibody at a dilution of 1:100 for 1 hour at room temperature, washed with PBS. Alexa Fluorc™ 488 Goat anti-Mouse IgG was used as the secondary antibody at 1/100 dilution. The nuclear counter stain is DAPI (blue).

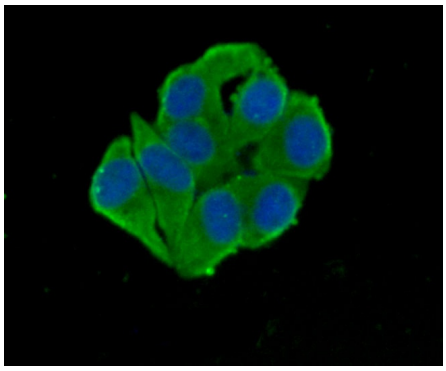

Fig3: ICC staining Glucose Transporter GLUT4 in HepG2 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA for 15 minutes at room temperature. Cells were probed with Glucose Transporter GLUT4 monoclonal antibody at a dilution of 1:100 for 1 hour at room temperature, washed with PBS. Alexa Fluorc™ 488 Goat anti-Mouse IgG was used as the secondary antibody at 1/100 dilution. The nuclear counter stain is DAPI (blue).

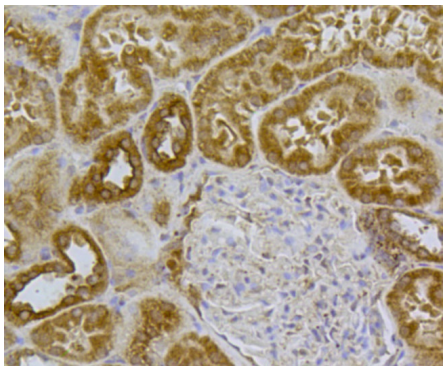

Fig4: Immunohistochemical analysis of paraffin-embedded human kidney tissue using anti-Glucose Transporter GLUT4 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the antibody (M1505-6) at 1/100 dilution, for 30 minutes at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. Counter stained with hematoxylin and mounted with DPX.

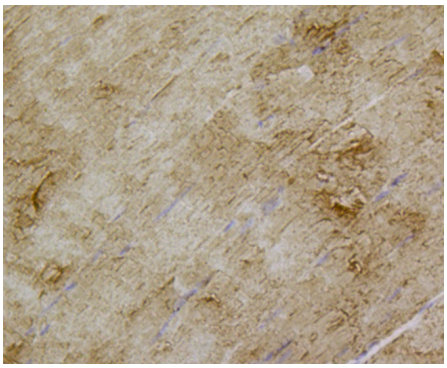

Fig5: Immunohistochemical analysis of paraffin-embedded mouse skeletal muscle tissue using anti-Glucose Transporter GLUT4 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the antibody (M1505-6) at 1/100 dilution, for 30 minutes at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. Counter stained with hematoxylin and mounted with DPX.

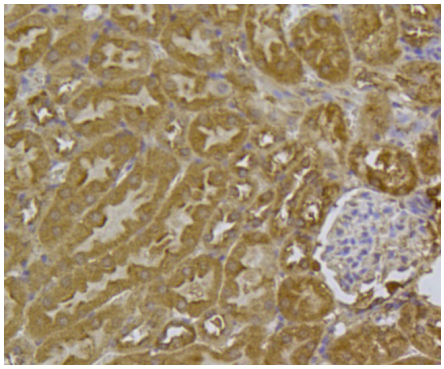

Fig6: Immunohistochemical analysis of paraffin-embedded mouse kidney tissue using anti-Glucose Transporter GLUT4 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the antibody (M1505-6) at 1/100 dilution, for 30 minutes at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. Counter stained with hematoxylin and mounted with DPX.

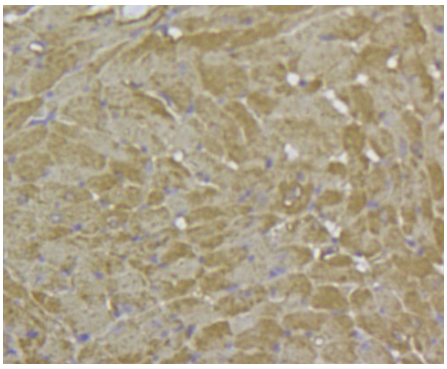

Fig7: Immunohistochemical analysis of paraffin-embedded mouse heart tissue using anti-Glucose Transporter GLUT4 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the antibody (M1505-6) at 1/100 dilution, for 30 minutes at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. Counter stained with hematoxylin and mounted with DPX.

Background References

1. Lu H et al. Transient hypoxia reprograms differentiating adipocytes for enhanced insulin sensitivity and triglyceride accumulation. Int J Obes (Lond) 40:121-8 (2016).
2. Zhou Y et al. MicroRNA-29a induces insulin resistance by targeting PPARd in skeletal muscle cells. Int J Mol Med 37:931-8 (2016).