iFluor™ 488 Conjugated Anti-Glucose Transporter GLUT1 Antibody [SA0377]

HA720154F

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	IF-Cell, IF-Tissue
Molecular Wt:	Predicted band size: 54 kDa
Clone number:	SA0377

Description: Glucose is fundamental to the metabolism of mammalian cells. Its passage across cell membranes is mediated by a family of transporters termed glucose transporters or Gluts. In adipose and muscle tissue, insulin stimulates a rapid and dramatic increase in glucose uptake, which is largely due to the redistribution of the insulin-inducible glucose transporter, Glut4. In response to insulin, Glut4 is quickly shuttled from an intracellular storage site to the plasma membrane, where it binds glucose. In contrast, the ubiquitously expressed glucose transporter Glut1 is constitutively targeted to the plasma membrane, and shows a much less dramatic translocation in response to insulin. Glut1 and Glut4 are twelve-pass transmembrane proteins (12TM) whose carboxy-termini may dictate their cellular localization. Aberrant Glut4 expression has been suggested to contribute to such maladies as obesity and diabetes. Glut4 null mice have shown that while functional Glut4 protein is not required for maintaining normal glucose levels, it is necessary for sustained growth, normal cellular glucose, fat metabolism and prolonged longevity.

Conjugate: iFluor™ 488, Ex: 491nm; Em: 516nm.

Immunogen: Synthetic peptide within Human GLUT1 aa 443-492 / 492.

Positive control: MCF7, human placenta tissue, MDA-MB-468.

Subcellular location: Cell membrane, Melanosome

Database links: SwissProt: P11166 Human | P17809 Mouse | P11167 Rat

Recommended Dilutions:

IF-Cell	1:100
IF-Tissue	1:50

Storage Buffer: Preservative: 0.02% Sodium azide Constituents: 30% Glycerol, 1% BSA, 68.98% PBS

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

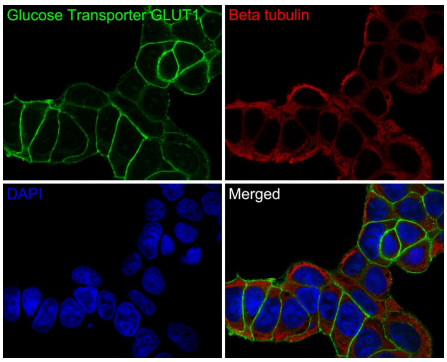

Fig1: Immunocytochemistry analysis of MCF7 cells labeling Glucose Transporter GLUT1 with Rabbit anti-Glucose Transporter GLUT1 antibody (HA720154F) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes, and then blocked with 2% normal goat serum for 1 hour at 37 ℃. Cells were then incubated with Rabbit anti-Glucose Transporter GLUT1 antibody (HA720154F) at 1/100 dilution in 2% normal goat serum overnight at 4 ℃. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/200 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) were used as the secondary antibody at 1/800 dilution.

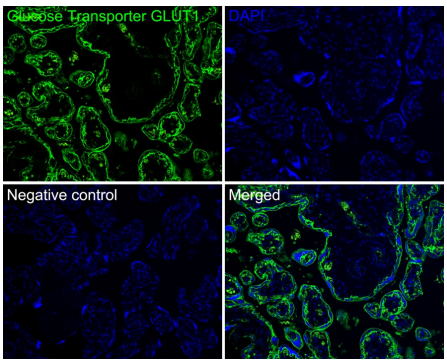

Fig2: Immunofluorescence analysis of paraffin-embedded human placenta tissue labeling Glucose Transporter GLUT1 (HA720154F).

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS. And then probed with the primary antibody Glucose Transporter GLUT1 (HA720154F, iFluor™ 488) at 1/50 dilution overnight at 4 ℃, washed with PBS. DAPI was used as nuclear counterstain.

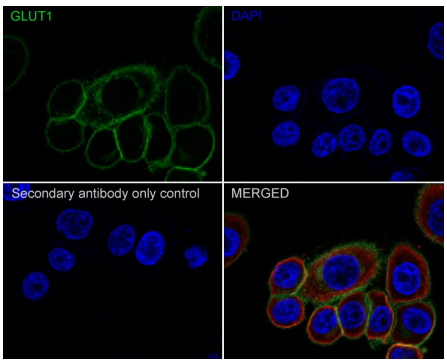

Fig3: Immunocytochemistry analysis of MDA-MB-468 cells labeling Glucose Transporter GLUT1 with Rabbit anti-Glucose Transporter GLUT1 antibody (HA720154F) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes, and then blocked with 2% normal goat serum for 1 hour at 37 ℃. Cells were then incubated with Rabbit anti-Glucose Transporter GLUT1 antibody (HA720154F) at 1/100 dilution in 2% normal goat serum overnight at 4 ℃. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/200 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) were used as the secondary antibody at 1/800 dilution.

Background References

1. Boyer-Di Ponio J et al. Instruction of circulating endothelial progenitors in vitro towards specialized blood-brain barrier and arterial phenotypes. PLoS One 9:e84179 (2014).
2. Saucillo DC et al. Leptin metabolically licenses T cells for activation to link nutrition and immunity. J Immunol 192:136-44 (2014).