

## Product datasheet

# Anti-Glucose Transporter GLUT4 antibody ab33780

★★★★★ 11 Abreviews 17 References 8 Images

### Overview

|                            |   |
|----------------------------|---|
| <b>Product name</b>        | Anti-Glucose Transporter GLUT4 antibody   |
| <b>Description</b>         | Rabbit polyclonal to Glucose Transporter GLUT4  |
| <b>Host species</b>        | Rabbit  |
| <b>Tested applications</b> | <b>Suitable for:</b> WB, IHC-P, IHC-Fr, ICC/IF  |
| <b>Species reactivity</b>  | <b>Reacts with:</b> Mouse, Rat, Human<br><b>Predicted to work with:</b> Sheep, Rabbit, Goat, Horse, Cow    |
| <b>Immunogen</b>           | Synthetic peptide conjugated to KLH derived from within residues 450 to the C-terminus of Human Glucose Transporter GLUT4. Read Abcam's proprietary immunogen policy (Peptide available as <a href="#">ab34088</a> .)   |
| <b>Positive control</b>    | This antibody gave a positive signal in WB using partial recombinant protein to GLUT4 and the following human tissue lysates: Heart, Skeletal Muscle. This antibody gave a positive result in IHC in the following FFPE tissues: Human normal heart muscle, Mouse normal skeletal muscle. |

### Properties

|                             |  |
|-----------------------------|--|
| <b>Form</b>                 | Liquid   |
| <b>Storage instructions</b> | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. |
| <b>Storage buffer</b>       | Preservative: 0.02% Sodium Azide<br>Constituents: 1% BSA, PBS, pH 7.4  |
| <b>Purity</b>               | Immunogen affinity purified  |
| <b>Clonality</b>            | Polyclonal   |
| <b>Isotype</b>              | IgG  |

### Applications

Our [Abpromise guarantee](#) covers the use of **ab33780** in the following tested applications.

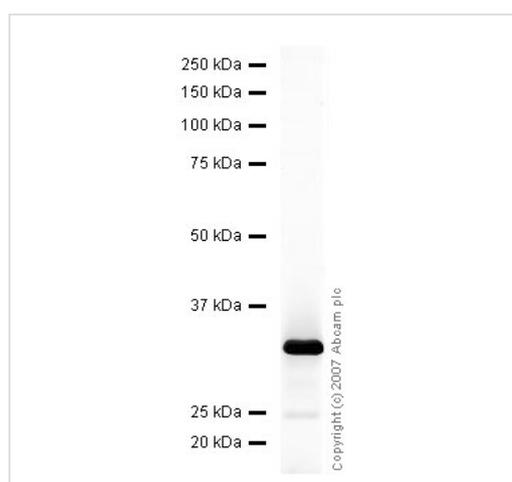
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

| Application | Abreviews | Notes  |
|-------------|-----------|--|
| WB          | ★★★★☆     | Use a concentration of 1 µg/ml. Predicted molecular weight: 55 kDa.  |
| IHC-P       | ★★★★★     | Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. |
| IHC-Fr      | ★★★★☆     | Use at an assay dependent concentration.   |
| ICC/IF      |           | Use a concentration of 1 µg/ml.  |

## Target

|   |  |
|---|--|
| <b>Function</b>                         | Insulin-regulated facilitative glucose transporter.  |
| <b>Tissue specificity</b>               | Skeletal and cardiac muscles; brown and white fat.   |
| <b>Involvement in disease</b>           | Diabetes mellitus, non-insulin-dependent   |
| <b>Sequence similarities</b>            | Belongs to the major facilitator superfamily. Sugar transporter (TC 2.A.1.1) family. Glucose transporter subfamily.  |
| <b>Post-translational modifications</b> | Sumoylated.  |
| <b>Cellular localization</b>            | Cell membrane. Endomembrane system. Cytoplasm, perinuclear region. Localizes primarily to the perinuclear region, undergoing continued recycling to the plasma membrane where it is rapidly reinternalized. The dileucine internalization motif is critical for intracellular sequestration. |

## Images



Western blot - Anti-Glucose Transporter GLUT4 antibody (ab33780)

Anti-Glucose Transporter GLUT4 antibody (ab33780) at 1 µg/ml + Partial tagged recombinant protein to GLUT4 at 0.1 µg

### Secondary

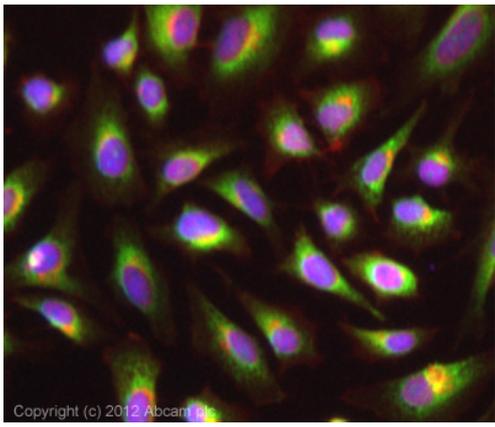
IRDye 680 Conjugated Goat Anti-Rabbit IgG (H+L) at 1/10000 dilution

**Predicted band size:** 55 kDa

**Observed band size:** 30 kDa

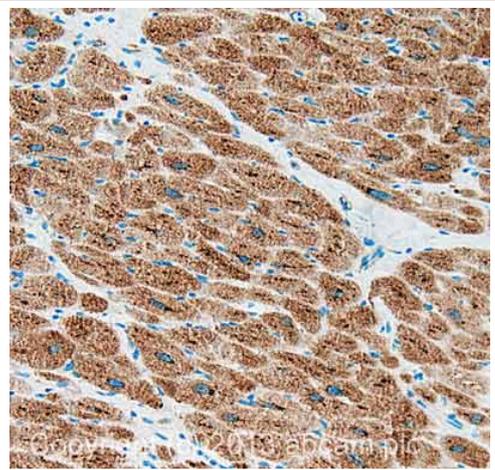
[why is the actual band size different from the predicted?](#)

ab33780 gave a positive signal against the partial recombinant GLUT4 protein which has an expected molecular weight of 30 kDa.



Immunocytochemistry/ Immunofluorescence - Anti-Glucose Transporter GLUT4 antibody (ab33780)

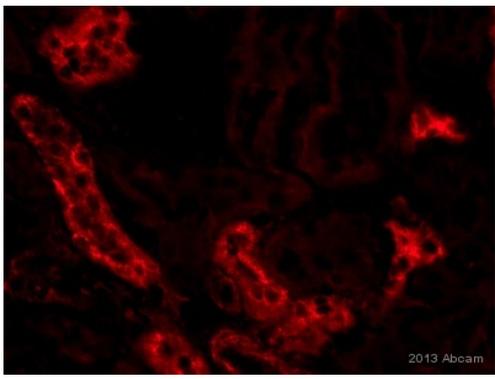
ICC/IF image of ab33780 stained HeLa cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab33780, 1µg/ml) overnight at +4°C. The secondary antibody (green) was ab96899, DyLight® 488 goat anti-rabbit IgG (H+L) used at a 1/250 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT4 antibody (ab33780)

IHC image of Glucose Transporter GLUT4 staining in Human normal heart muscle formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab33780, 1µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

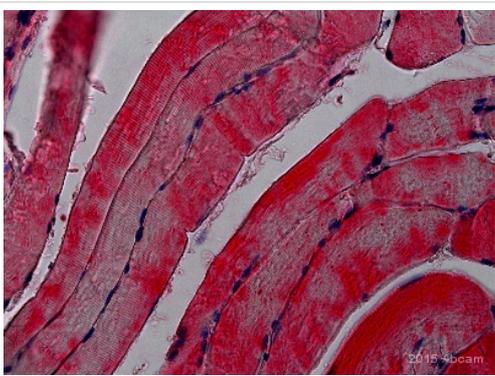
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunohistochemistry (Frozen sections) - Anti-Glucose Transporter GLUT4 antibody (ab33780)

This image is courtesy of an Abreview submitted by Domenica McCarthy

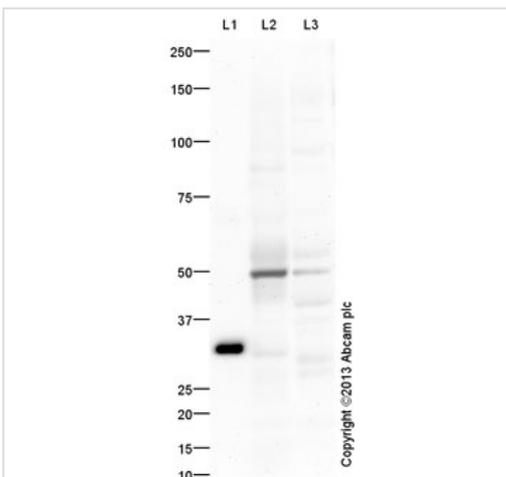
ab33780 staining Glucose Transporter GLUT4 in Mouse kidney tissue sections by Immunohistochemistry (IHC-Fr - frozen sections). Tissue was fixed with Acetone and blocked with 2% Horse serum for 60 minutes at 25°C. Samples were incubated with primary antibody (1/500) for 16 hours at 4°C. An Alexa Fluor®568-conjugated Donkey anti-rabbit IgG polyclonal (1/2000) was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT4 antibody (ab33780)

Image is courtesy of an Anonymous AbReview.

Immunohistochemical of PFA-fixed paraffin-embedded rat skeletal muscle skeletal tissue, labelling glucose transporter GLUT4 with ab33780 at a dilution of 1/200 incubated for 13 hours at 4°C in 1% BSA in TBS. Antigen retrieval was with Tris-EDTA at pH 9.0 (heat mediated). Blocking was with 3% BSA incubated for 1 hour at 37°C. Secondary was a Goat anti-rabbit polyclonal Alkaline Phosphatase conjugate at 1/200.



Western blot - Anti-Glucose Transporter GLUT4 antibody (ab33780)

**All lanes :** Anti-Glucose Transporter GLUT4 antibody (ab33780) at 1 µg/ml

**Lane 1 :** Recombinant Protein GLUT4 (Partial, Tagged) at 0.1 µg

**Lane 2 :** Heart (Human) Tissue Lysate at 20 µg

**Lane 3 :** Skeletal Muscle (Human) Tissue Lysate at 20 µg

#### Secondary

**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/10000 dilution

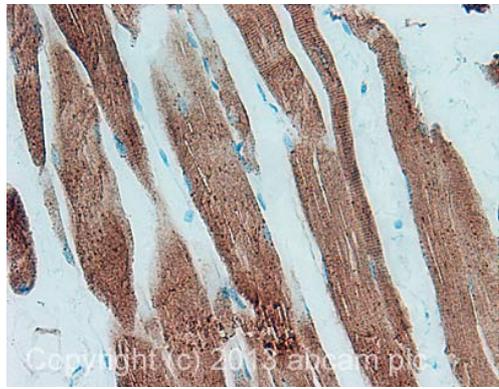
Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size:** 55 kDa

**Observed band size:** 50 kDa [why is the actual band size different from the predicted?](#)

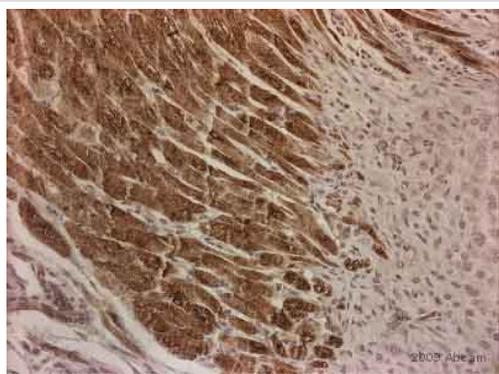
**Exposure time:** 4 minutes



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT4 antibody (ab33780)

IHC image of Glucose Transporter GLUT4 staining in Mouse normal skeletal muscle formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol B. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab33780, 5µg/ml, for 15 mins at room temperature. A Goat anti-Rabbit biotinylated secondary antibody was used to detect the primary, and visualized using an HRP conjugated ABC system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT4 antibody (ab33780)

This image is courtesy of an Abreview submitted by AntibodySolutions Ltd.

ab33780 staining glucose transporter GLUT4 in human heart tissue section by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections). Tissue underwent fixation in formaldehyde, heat mediated antigen retrieval in Citrate buffer pH 6.0 and blocking (5 minutes/peroxidase block then 10 minutes/protein block) for 15 minutes at 20°C. The primary antibody was diluted, 1/2000 and incubated with sample for 45 minutes at 20°C. A HRP conjugated goat polyclonal to rabbit IgG was used undiluted as secondary.

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