Product datasheet

Anti-GAPDH antibody [EPR16891] - Loading Control
ab181602

Overview

Product name: Anti-GAPDH antibody [EPR16891] - Loading Control
Description: Rabbit monoclonal [EPR16891] to GAPDH - Loading Control
Host species: Rabbit
Tested applications: Suitable for: WB, IHC-P, ICC/IF, Flow Cyt, IP
Species reactivity: Reacts with: Mouse, Rat, Rabbit, Chicken, Human, Fish, Monkey, Zebrafish, Xenopus tropicalis
Immunogen: Recombinant fragment within Mouse GAPDH aa 100 to the C-terminus. The exact sequence is proprietary.
Database link: P16858

Positive control: WB: HeLa, UMNSAH/DF-1, Jurkat, COS-1, RAW 264.7 and PC-12 whole cell lysates; Human fetal brain and heart lysates; Xenopus(X. tropicalis) muscle lysate; Zebrafish lysate; Mouse kidney and spleen lysates; Rat brain lysate. IHC-P: Human transitional cell carcinoma of bladder, Mouse spleen and Rat spleen tissues. ICC/IF: HeLa cells. Flow: Jurkat cells. IP: HeLa whole cell extract

General notes: Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents. This product is a recombinant rabbit monoclonal antibody.

Properties

Form: Liquid
Storage buffer: Preservative: 0.01% Sodium azide
Constituents: PBS, 40% Glycerol, 0.05% BSA
Purity: Protein A purified
Clonality: Monoclonal
Clone number: EPR16891
Isotype: IgG
Function
Has both glyceraldehyde-3-phosphate dehydrogenase and nitrosylase activities, thereby playing a role in glycolysis and nuclear functions, respectively. Participates in nuclear events including transcription, RNA transport, DNA replication and apoptosis. Nuclear functions are probably due to the nitrosylase activity that mediates cysteine S-nitrosylation of nuclear target proteins such as SIRT1, HDAC2 and PRKDC (By similarity). Glyceraldehyde-3-phosphate dehydrogenase is a key enzyme in glycolysis that catalyzes the first step of the pathway by converting D-glyceraldehyde 3-phosphate (G3P) into 3-phospho-D-glyceroyl phosphate.

Pathway
Carbohydrate degradation; glycolysis; pyruvate from D-glyceraldehyde 3-phosphate: step 1/5.

Sequence similarities
Belongs to the glyceraldehyde-3-phosphate dehydrogenase family.

Post-translational modifications
S-nitrosylation of Cys-152 leads to interaction with SIAH1, followed by translocation to the nucleus.

Cellular localization
Cytoplasm > cytosol. Nucleus. Cytoplasm > perinuclear region. Membrane. Translocates to the nucleus following S-nitrosylation and interaction with SIAH1, which contains a nuclear localization signal (By similarity). Postnuclear and Perinuclear regions.

Applications
Our Abpromise guarantee covers the use of ab181602 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>WB</td>
<td></td>
<td>1/10000. Detects a band of approximately 36 kDa (predicted molecular weight: 36 kDa).</td>
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<tr>
<td>ICC/IF</td>
<td></td>
<td>1/500.</td>
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<tr>
<td>Flow Cyt</td>
<td></td>
<td>1/180. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.</td>
</tr>
<tr>
<td>IP</td>
<td></td>
<td>1/60.</td>
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Target

Images
**Western blot - Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602)**

**All lanes**: Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) at 1/10000 dilution

- **Lane 1**: Mouse kidney lysates
- **Lane 2**: Mouse spleen lysates
- **Lane 3**: RAW 264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) whole cell lysates
- **Lane 4**: PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysates
- **Lane 5**: Rat brain lysates

Lysates/proteins at 10 µg per lane.

**Secondary**

**All lanes**: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

**Predicted band size**: 36 kDa

**Observed band size**: 36 kDa

Blocking/Dilution buffer: 5% NFDM/TBST.
Immunocytochemistry/immunofluorescence staining of 4% paraformaldehyde fixed; 0.1% triton X 100 permeabilized HeLa (human cervix adenocarcinoma) cells labeling GAPDH with ab181602 at dilution of 1/500. The secondary antibody used was Alexa Fluor® 488; goat anti-rabbit IgG (ab150077) at a dilution of 1/400. Nucleus was counter-stained with DAPI (blue). ab7291, a mouse anti-tubulin antibody (1/500) was used to stain tubulin along with ab150120 (AlexaFluor®594 goat anti-mouse secondary, 1/500). The negative controls are shown in the bottom middle and right hand panels- for negative control 1 primary antibody (ab181602; 1/500) and secondary antibody (ab150120; 1/500) was used. For negative control 2 primary antibody (ab7291; 1/500) and secondary antibody (ab150077; 1/400) was used.

Immunohistochemical analysis of paraffin-embedded rat spleen tissue labeling GAPDH with ab181602 at 1/2000 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Nucleus and cytoplasmic staining on lymphocyte of rat spleen is observed. Counter stained with Hematoxylin.

Negative control: Using PBS instead of primary ab, secondary ab is prediluted HRP Polymer for Rabbit/Mouse IgG.
GAPDH was immunoprecipitated from 1mg of HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell extract with ab181602 at 1/60 dilution. Western blot was performed from the immunoprecipitate using ab181602 at 1/5000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution. **Lane 1:** HeLa whole cell extract.  
**Lane 2:** PBS instead of HeLa whole cell extract.  
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Flow cytometric analysis of 2% paraformaldehyde-fixed Jurkat (Human T cell leukemia cells from peripheral blood) cells labeling GAPDH with ab181602 at 1/180 dilution (red) compared with a rabbit monoclonal IgG isotype control (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/150 dilution was used as the secondary antibody.

**All lanes:** Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) at 1/50000 dilution  
**Lane 1:** HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysates  
**Lane 2:** Xenopus(X. tropicalis) muscle lysates  
**Lane 3:** UMNSAH/DF-1 (Transformed chicken embryonic fibroblast cells) whole cell lysates  
**Lane 4:** Jurkat (Human T cell leukemia cells from peripheral blood) whole cell lysates  
Lysates/proteins at 20 µg per lane.

**Secondary**  
**All lanes:** Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution
Immunohistochemical analysis of paraffin-embedded human transitional cell carcinoma of bladder tissue labeling GAPDH with ab181602 at 1/2000 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Cytoplasmic and nucleus staining on the tumor cells of transitional cell carcinoma of human bladder is observed. Counter stained with Hematoxylin.

Negative control: Using PBS instead of primary ab, secondary ab is prediluted HRP Polymer for Rabbit/Mouse IgG.

Western blot - Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602)

All lanes : Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) at 1/10000 dilution

Lane 1 : COS-1 (African green monkey kidney fibroblast-like cell line) whole cell lysates
Lane 2 : Zebrafish lysates

Lysates/proteins at 20 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 36 kDa
Observed band size: 36 kDa

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes: Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) at 1/10000 dilution

Lane 1: Human fetal brain lysates
Lane 2: Human fetal heart lysates

Lysates/proteins at 10 µg per lane.

Secondary
All lanes: Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 36 kDa
Observed band size: 36 kDa

Blocking/Dilution buffer: 5% NFDM/TBST.

Immunohistochemical analysis of paraffin-embedded mouse spleen tissue labeling GAPDH with ab181602 at 1/2000 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Nucleus and cytoplasmic staining on lymphocytes of mouse spleen is observed. Counter stained with Hematoxylin.

Negative control: Using PBS instead of primary ab, secondary ab is prediluted HRP Polymer for Rabbit/Mouse IgG.

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