


## Product datasheet

# Anti-GAPDH antibody [EPR16891] - Loading Control ab181602

Recombinant RabMAb

★★★★★ **22 Abreviews** **2087 References** [12 Images](#)

### Overview

<b>Product name</b>	Anti-GAPDH antibody [EPR16891] - Loading Control
<b>Description</b>	Rabbit monoclonal [EPR16891] to GAPDH - Loading Control
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> Flow Cyt (Intra), WB, IHC-P, ICC/IF, IP
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Chicken, Human, Zebrafish, African green monkey, Xenopus tropicalis <b>Predicted to work with:</b> Rabbit, Fish 
<b>Immunogen</b>	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
<b>Positive control</b>	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
<b>General notes</b>	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p>

### 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 long term. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol, 0.05% BSA
<b>Purity</b>	Protein A purified

<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR16891
<b>Isotype</b>	IgG

## Applications

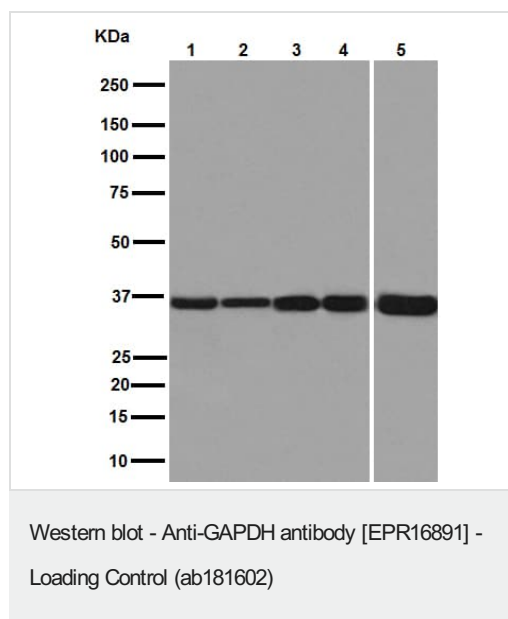
**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab181602 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt (Intra)		1/180. <b>ab172730</b> - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
WB	★★★★★ (19)	1/10000. Detects a band of approximately 36 kDa (predicted molecular weight: 36 kDa).
IHC-P		1/2000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
ICC/IF	★★★★★ (3)	1/500.
IP		1/60.

## Target

<b>Function</b>	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.
<b>Pathway</b>	Carbohydrate degradation; glycolysis; pyruvate from D-glyceraldehyde 3-phosphate: step 1/5.
<b>Sequence similarities</b>	Belongs to the glyceraldehyde-3-phosphate dehydrogenase family.
<b>Post-translational modifications</b>	S-nitrosylation of Cys-152 leads to interaction with SIAH1, followed by translocation to the nucleus. ISGylated.
<b>Cellular localization</b>	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.

## Images



**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.

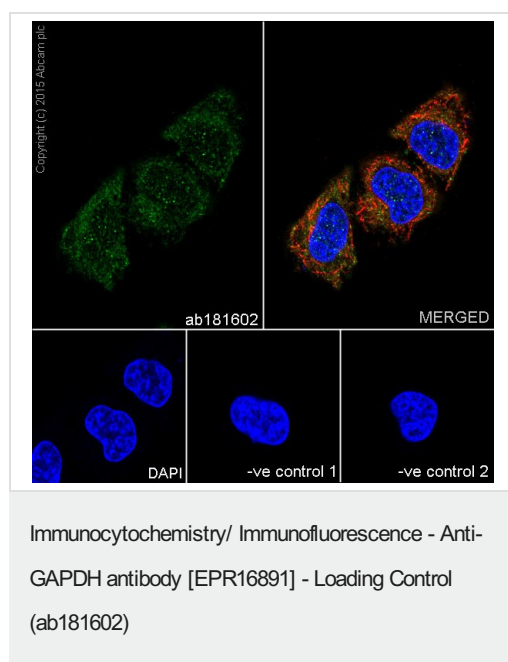
## Secondary

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

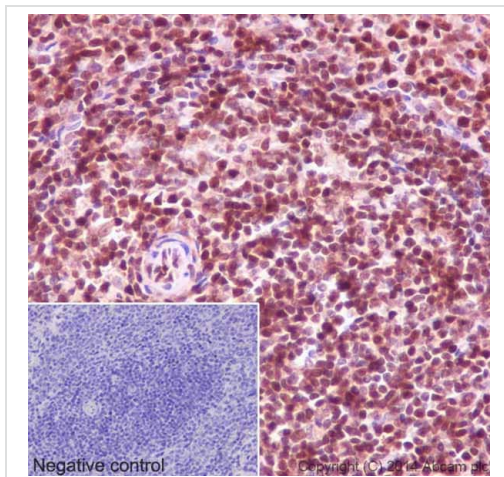
**Predicted band size:** 36 kDa

**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.

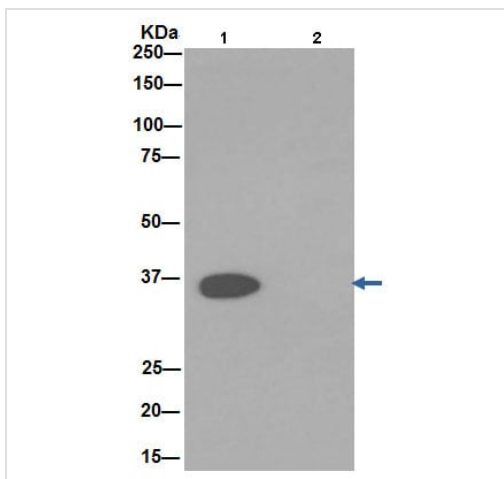


Immunohistochemical analysis of paraffin-embedded rat spleen tissue labeling GAPDH with ab181602 at 1/2000 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Nucleus and cytoplasmic staining on lymphocyte of rat spleen is observed. Counter stained with Hematoxylin.

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

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602)

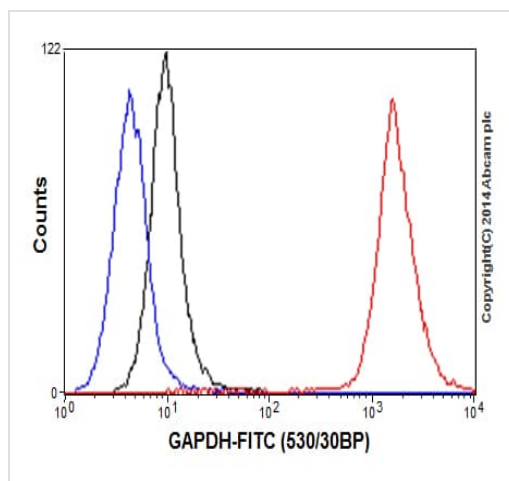


GAPDH was immunoprecipitated from 1mg of HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell extract with ab181602 at 1/60 dilution. Western blot was performed from the immunoprecipitate using ab181602 at 1/5000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution. **Lane 1:** HeLa whole cell extract.

**Lane 2:** PBS instead of HeLa whole cell extract.

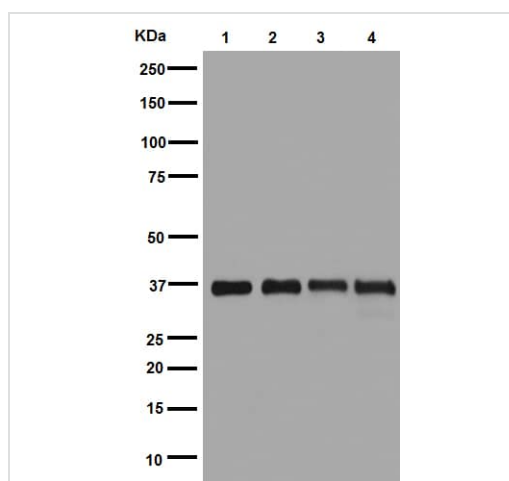
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

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



Flow Cytometry (Intracellular) - Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602)

Intracellular 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.



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

**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 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.

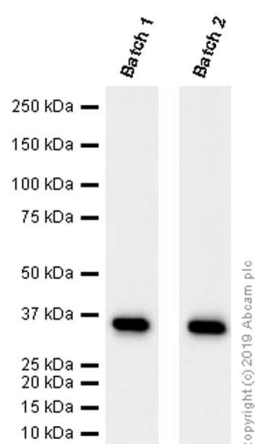
### Secondary

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

**Predicted band size:** 36 kDa

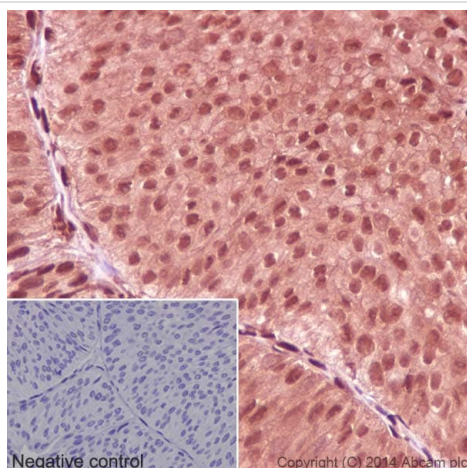
**Observed band size:** 36 kDa

Blocking/Dilution buffer: 5% NFDM/TBST.



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

Different batches of ab181602 were tested on HeLa (Human cervix adenocarcinoma epithelial cell) lysate at 1.0 µg/ml. 15 µg of lysate was loaded in each lane. Bands observed at 36 kDa.

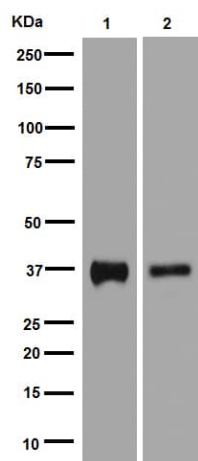


Immunohistochemistry (Formalin/PFA-fixed paraffin-  
embedded sections) - Anti-GAPDH antibody  
[EPR16891] - Loading Control (ab181602)

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.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



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.

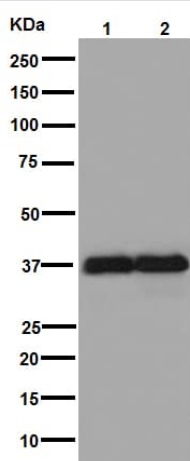
#### Secondary

**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.



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

**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

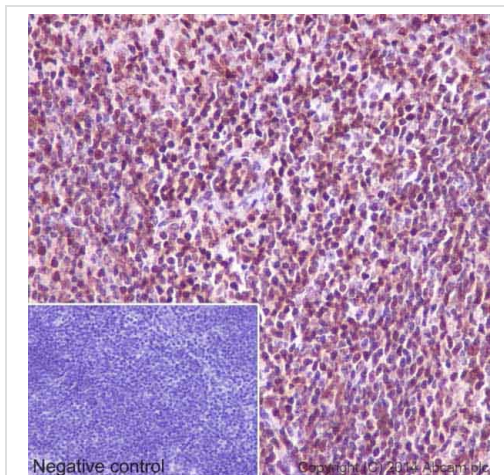
**All lanes :** Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

**Predicted band size:** 36 kDa

**Observed band size:** 36 kDa



Blocking/Dilution buffer: 5% NFDM/TBST.



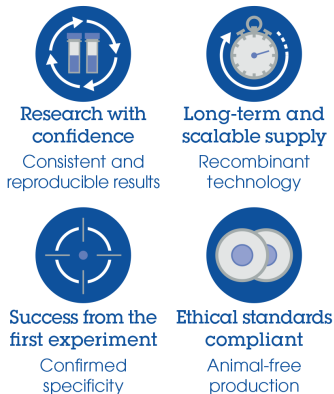
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602)

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.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

#### Why choose a recombinant antibody?



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

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

#### Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you



- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

#### **Terms and conditions**

---

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors