abcam

Product datasheet

Anti-ASS1 antibody [EPR12398] ab170952

KO VALIDATED Recombinant RabMAb

★★★★★ 1 Abreviews 8 References 20 Images

Overview

Product name	Anti-ASS1 antibody [EPR12398]
Description	Rabbit monoclonal [EPR12398] to ASS1
Host species	Rabbit
Tested applications	**Suitable for:** Flow Cyt (Intra), WB, ICC/IF, IP, IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Human **Predicted to work with:** Cow
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: HAP1, HeLa, HepG2 cell lysates. Human fetal kidney and liver tissue lysates. Mouse liver and kidney lysates. Rat liver lysate. ICC/IF: MCF7 and HeLa cells. IHC-P: Human kidney, ureter tissue. Mouse kidney tissue. Flow Cyt (intra): HeLa cells. IP: HeLa cells.
General notes	The rat recommendation is based on the WB results. This antibody may not be suitable for IHC with rat samples. This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	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.
Storage buffer	Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified

Clonality	Monoclonal
Clone number	EPR12398
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab170952 in the following tested applications.

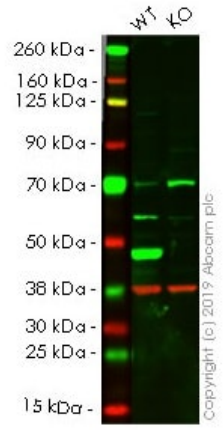
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt (Intra)		1/100. For unpurified use at 1/500 - 1/1000. **ab172730** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
WB		1/20000. Predicted molecular weight: 47 kDa. **For unpurified use at 1/1000 - 1/10000.**
ICC/IF		1/50 - 1/100.
IP		1/10 - 1/100.
IHC-P	★★★★★ **(1)**	1/4000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**. **For unpurified use at 1/250 - 1/500.**

Target

Pathway	Amino-acid biosynthesis; L-arginine biosynthesis; L-arginine from L-ornithine and carbamoyl phosphate: step 2/3. Nitrogen metabolism; urea cycle; (N(omega)-L-arginino)succinate from L-aspartate and L-citrulline: step 1/1.
Involvement in disease	Defects in ASS1 are the cause of citrullinemia type 1 (CTLN1) [MIM:215700]. Citrullinemia belongs to the urea cycle disorders. It is an autosomal recessive disease characterized primarily by elevated serum and urine citrulline levels. Ammonia intoxication is another manifestation. CTLN1 usually manifests in the first few days of life. Affected infants appear normal at birth, but as ammonia builds up in the body they present symptoms such as lethargy, poor feeding, vomiting, seizures and loss of consciousness. Less commonly, a milder CTLN1 form can develop later in childhood or adulthood.
Sequence similarities	Belongs to the argininosuccinate synthase family. Type 1 subfamily.

Images



Western blot - Anti-ASS1 antibody [EPR12398] (ab170952)

All lanes : Anti-ASS1 antibody [EPR12398] (ab170952) at 1/1000 dilution

Lane 1 : Wild-type HeLa cell lysate
Lane 2 : ASS1 knockout HeLa cell lysate

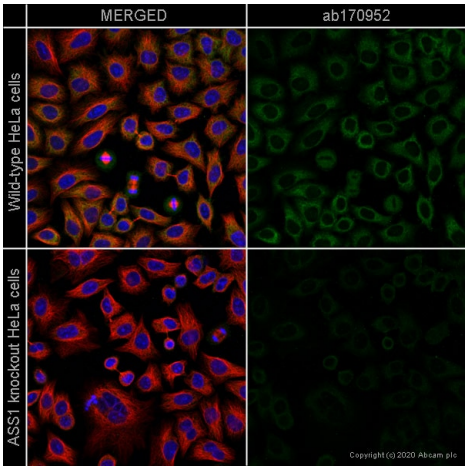
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 47 kDa
Observed band size: 47 kDa

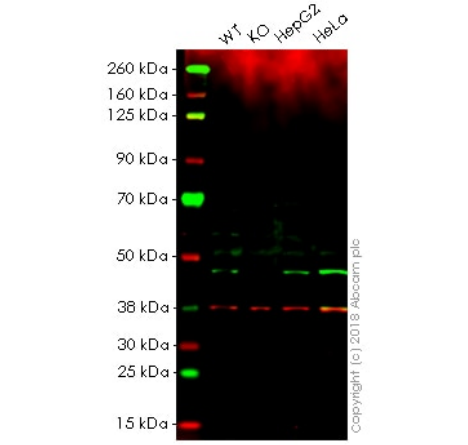
Lanes 1- 2: Merged signal (red and green). Green - ab170952 observed at 47 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) observed at 37 kDa.

ab170952 was shown to react with ASS1 in wild-type HeLa cells in western blot. Loss of signal was observed when knockout cell line **ab264989** (knockout cell lysate **ab257143**) was used. Wild-type HeLa and ASS1 knockout HeLa cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab170952 and Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



Immunocytochemistry/ Immunofluorescence - Anti-ASS1 antibody [EPR12398] (ab170952)

ab170952 staining ASS1 in wild-type HeLa cells (top panel) and ASS1 knockout HeLa cells (**ab264989**) (bottom panel). The cells were fixed with 100% methanol (5 min) then permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab170952 at 1/100 dilution and **ab7291** (Mouse monoclonal to alpha Tubulin) at 1/1000 dilution overnight at 4°C followed by a further incubation at room temperature for 1h with a goat secondary antibody to rabbit IgG (Alexa Fluor® 488) (**ab150081**) at 2 µg/ml (shown in green) and a goat secondary antibody to mouse IgG (Alexa Fluor® 594) (**ab150120**) at 2 µg/ml (shown in red). Nuclear DNA was labelled in blue with DAPI.
Image was taken with a confocal microscope (Leica-Microsystems TCS SP8).



Western blot - Anti-ASS1 antibody [EPR12398] (ab170952)

All lanes : Anti-ASS1 antibody [EPR12398] (ab170952) at 1/20000 dilution

Lane 1 : Wild-type HAP1 whole cell lysate
Lane 2 : ASS1 knockout HAP1 whole cell lysate
Lane 3 : HepG2 whole cell lysate
Lane 4 : HeLa whole cell lysate

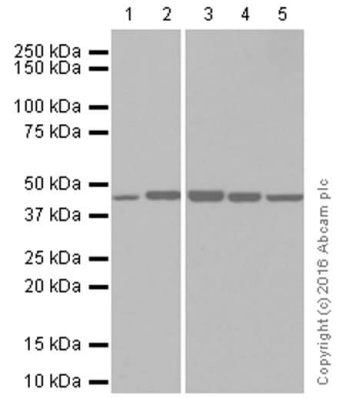
Lysates/proteins at 20 µg per lane.

Predicted band size: 47 kDa
Observed band size: 47 kDa

Lanes 1 - 4: Merged signal (red and green). Green - ab170952 observed at 47 kDa. Red - loading control, **ab9484**, observed at 37 kDa.

ab170952 was shown to recognize ASS1 in wild-type HAP1 cells as signal was lost at the expected MW in ASS1 knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and ASS1 knockout samples were subjected to SDS-PAGE. Ab170952 and **ab9484** (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/20000 dilution and 1/10000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed **ab216773** and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed **ab216776** secondary antibodies at 1/10000

dilution for 1 hour at room temperature before imaging.



Western blot - Anti-ASS1 antibody [EPR12398] (ab170952)

All lanes : Anti-ASS1 antibody [EPR12398] (ab170952) at 0.05 µg/ml (Purified)

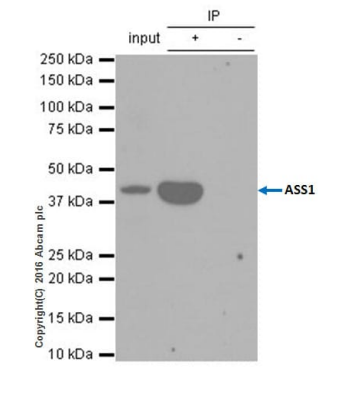
Lane 1 : HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate
Lane 2 : Human fetal liver lysate
Lane 3 : Mouse liver lysate
Lane 4 : Rat liver lysate
Lane 5 : Mouse kidney lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

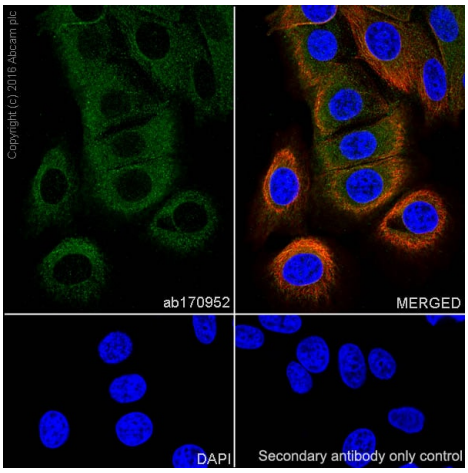
Predicted band size: 47 kDa
Observed band size: 47 kDa

Blocking and diluting buffer: 5% NFDM/TBST



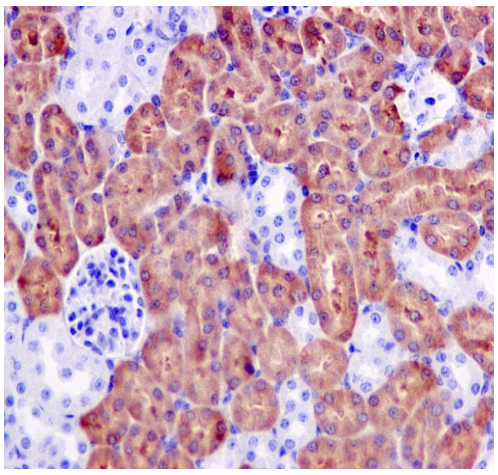
Immunoprecipitation - Anti-ASS1 antibody [EPR12398] (ab170952)

ab170952 (purified) at 1:60 dilution (5ug) immunoprecipitating ASS1 in HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate.
Lane 1 (input): HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate 10ug
Lane 2 (+): ab170952 & HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (**ab172730**) instead of ab170952 in HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate
For western blotting, VeriBlot for IP Detection Reagent (HRP) (**ab131366**) was used for detection at 1:1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.



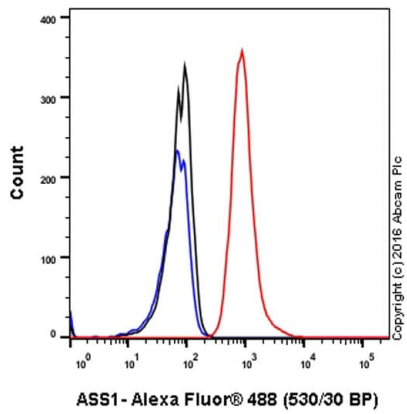
Immunocytochemistry/ Immunofluorescence - Anti-ASS1 antibody [EPR12398] (ab170952)

Immunocytochemistry/ Immunofluorescence analysis of MCF7 (Human breast adenocarcinoma cell line) cells labeling ASS1 with Purified ab170952 at 1:100 dilution (10.2µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with Ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). **ab150077** Goat anti rabbit IgG(Alexa Fluor® 488) was used as the secondary antibody at 1:1000 dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



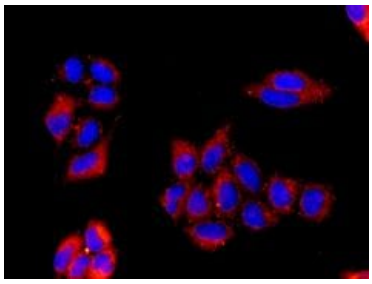
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ASS1 antibody [EPR12398] (ab170952)

ab170952 showing +ve staining in Mouse kidney tissue.



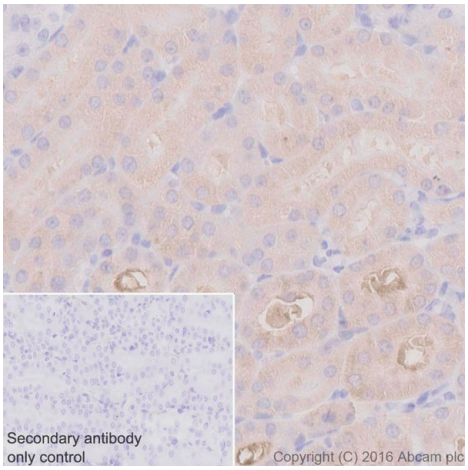
Flow Cytometry (Intracellular) - Anti-ASS1 antibody [EPR12398] (ab170952)

Intracellular Flow Cytometry analysis of HeLa (Human epithelial cell line from cervix adenocarcinoma) cells labeling ASS1 with purified ab170952 at 1/100 dilution (10 ug/ml) (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



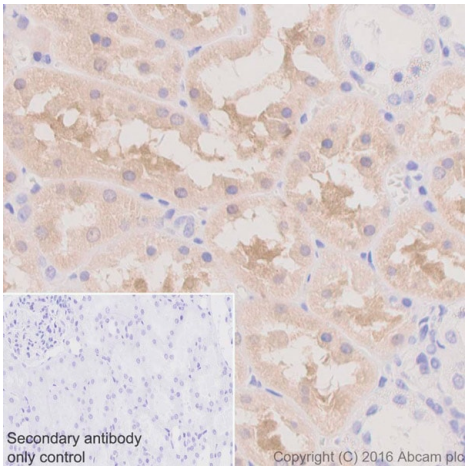
Immunocytochemistry/ Immunofluorescence - Anti-ASS1 antibody [EPR12398] (ab170952)

Immunofluorescent analysis of HeLa cells labeling ASS1 using ab170952 at 1/50 dilution (red). DAPI nuclear staining (blue).



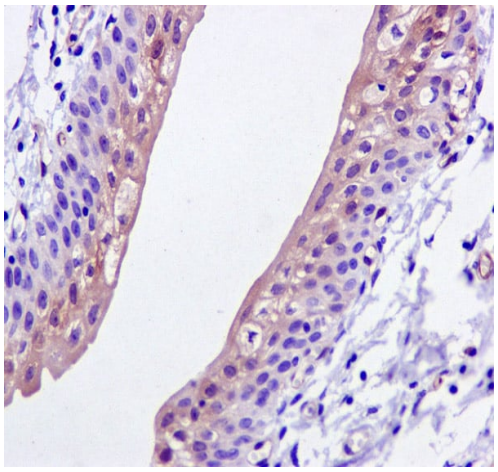
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ASS1 antibody [EPR12398] (ab170952)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Mouse kidney tissue sections labeling ASS1 with Purified ab170952 at 1:4000 dilution (0.25 µg/ml). Heat mediated antigen retrieval was performed using citrate Buffer, PH6. Tissue was counterstained with Hematoxylin. **ab97051** Goat Anti-Rabbit IgG H&L (HRP)
secondary antibody was used at 1:500 dilution. PBS instead of the primary antibody was used as the negative control.



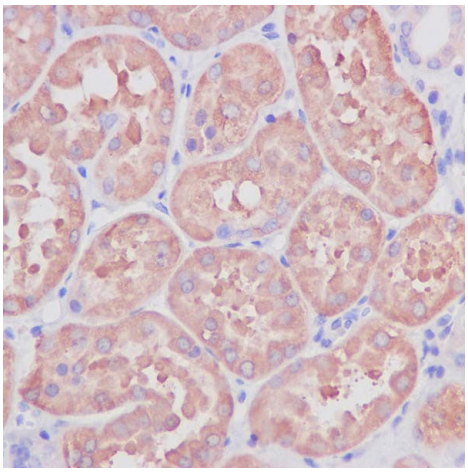
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ASS1 antibody [EPR12398] (ab170952)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human kidney tissue sections labeling ASS1 with Purified ab170952 at 1:4000 dilution (0.25 µg/ml). Heat mediated antigen retrieval was performed using citrate Buffer, PH6. Tissue was counterstained with Hematoxylin. **ab97051** Goat Anti-Rabbit IgG H&L (HRP) secondary antibody was used at 1:500 dilution. PBS instead of the primary antibody was used as the negative control.



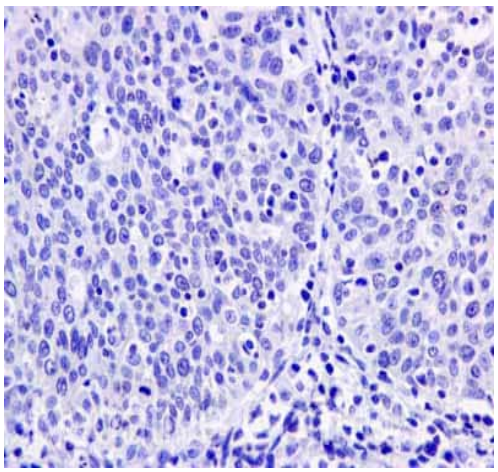
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ASS1 antibody [EPR12398] (ab170952)

ab170952 showing +ve staining in Human normal ureter tissue.



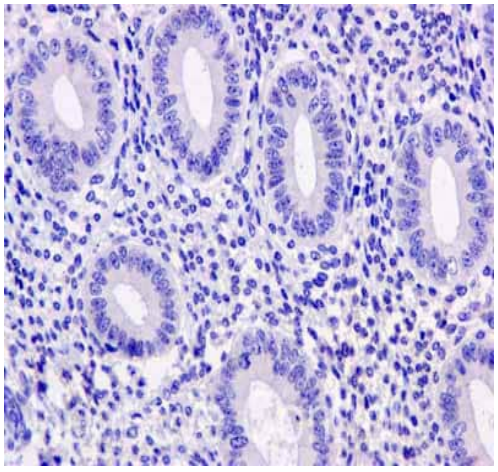
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ASS1 antibody [EPR12398] (ab170952)

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling ASS1 with ab170952 at 1/250 dilution.



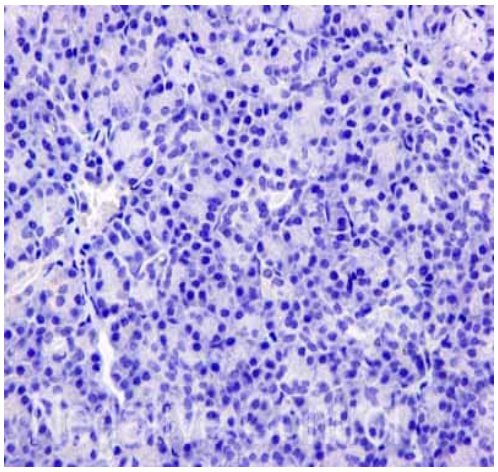
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ASS1 antibody [EPR12398] (ab170952)

ab170952 showing -ve staining in Human cervical carcinoma tissue.



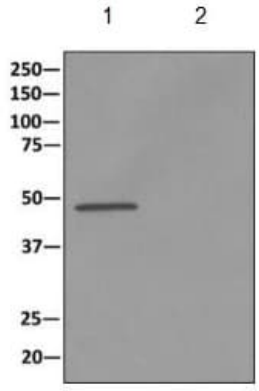
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ASS1 antibody [EPR12398] (ab170952)

ab170952 showing -ve staining in Human normal uterus tissue.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ASS1 antibody [EPR12398] (ab170952)

ab170952 showing -ve staining in Human normal pancreas tissue.

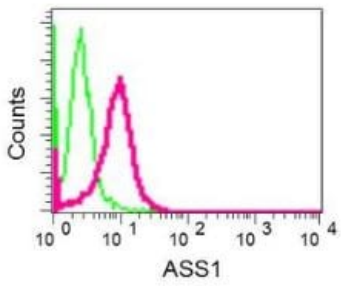


Immunoprecipitation - Anti-ASS1 antibody [EPR12398] (ab170952)

Secondary antibody used is HRP-conjugated anti-rabbit IgG preferentially detecting the non-reduced form of rabbit IgG.

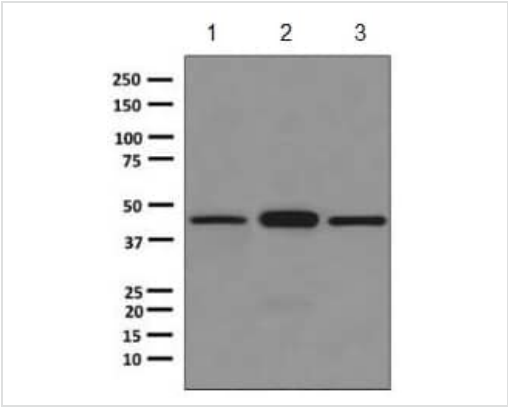
All lanes : Anti-ASS1 antibody [EPR12398] (ab170952) at 1/10 dilution

Lane 1 : Human fetal liver tissue lysate at 10 µg
Lane 2 : PBS



Flow Cytometry (Intracellular) - Anti-ASS1 antibody [EPR12398] (ab170952)

Intracellular flow cytometric analysis of permeabilized Hela cells labeling ASS1 using ab170952 at 1/500 dilution (red) or a rabbit IgG negative (green).



Western blot - Anti-ASS1 antibody [EPR12398] (ab170952)

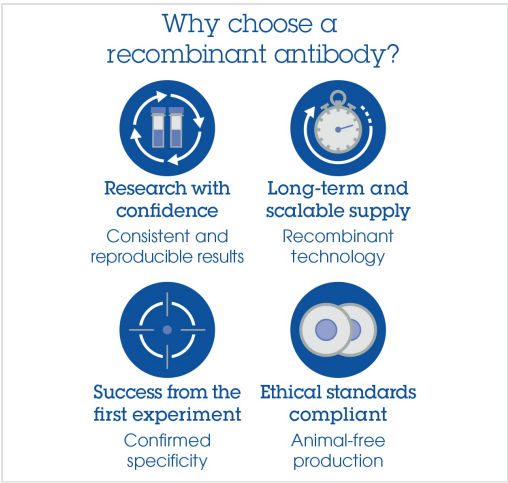
All lanes : Anti-ASS1 antibody [EPR12398] (ab170952) at 1/1000 dilution

Lane 1 : HeLa cell lysate
Lane 2 : Fetal liver tissue lysate
Lane 3 : Fetal kidney tissue lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat anti-rabbit HRP at 1/2000 dilution

Predicted band size: 47 kDa



Anti-ASS1 antibody [EPR12398] (ab170952)

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