abcam

ab210451

PE Anti-ASS1 antibody [EPR12398]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR12398
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/100

Notes	This product gave a positive signal in HeLa cells fixed with 100% methanol (5 min)

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Cow
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Cow
Dilution info	-
Notes	-

IHC-P

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Cow
Dilution info	-
Notes	-

Target data

See full target information ASS1

Function One of the enzymes of the urea cycle, the metabolic pathway transforming neurotoxic amonia produced by protein catabolism into inocuous urea in the liver of ureotelic animals. Catalyzes the formation of arginosuccinate from aspartate, citrulline and ATP and together with ASL it is responsible for the biosynthesis of arginine in most body tissues.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Do Not Freeze, Store in the dark

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
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 batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	ASS1 or argininosuccinate synthase 1 is an enzyme that plays an important role in the urea cycle. It catalyzes the conversion of citrulline and aspartate into argininosuccinate using ATP in the process. The ASS1 protein is commonly expressed in the liver where it actively participates in the detoxification of ammonia. It has a molecular mass of approximately 46 kDa. Some alternate names for this protein include ASS and ASS-1.
Biological function summary	Argininosuccinate synthase 1 contributes significantly to the synthesis of arginine an essential amino acid through its conversion activities. The enzyme operates as a homotrimer a complex consisting of three identical subunits. This enzymatic activity is indispensable in maintaining the balance of nitrogen and ammonia within the body particularly important for liver and kidney functions.
Pathways	ASS1 is a critical component of both the urea cycle and the nitric oxide metabolism pathway. The urea cycle helps in detoxifying ammonia by converting it into urea which is excreted in urine. In nitric oxide metabolism ASS1 links with nitric oxide synthase to facilitate the use of arginine in producing nitric oxide a vital signaling molecule. The pathway engagement partners include proteins like citrin which supplies aspartate for the reaction.
Associated diseases and disorders	ASS1 has implications in citrullinemia and hepatocellular carcinoma. Citrullinemia results from mutations in the ASS1 gene leading to defective urea cycle function and ammonia accumulation. In cancer particularly hepatocellular carcinoma low expression of ASS1 correlates with poor prognosis as cancer cells often exhibit arginine auxotrophy. Connections through these conditions involve interactions with enzymes such as arginase which also influences arginine availability.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

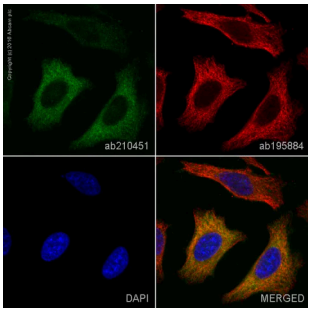
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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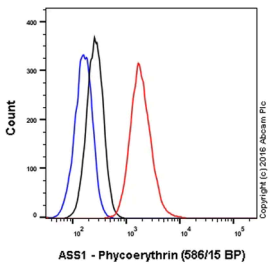
3 product images



Immunocytochemistry/ Immunofluorescence - PE Anti-ASS1 antibody [EPR12398] (ab210451)

ASS1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ASS1 antibody

ab210451 staining ASS1 in HeLa cells. The cells were fixed with 100% methanol (5min), 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 overnight at +4°C with ab210451 at 1/100 dilution (**pseudocolored in green**) and ab195884, Rat monoclonal to Tubulin (Alexa Fluor® 647), at 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



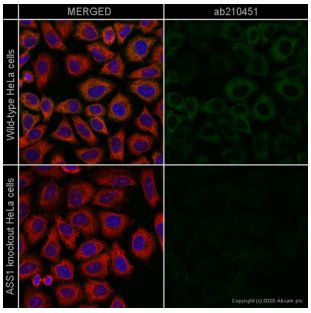
Flow Cytometry (Intracellular) - PE Anti-ASS1 antibody [EPR12398] (ab210451)

ASS1 Flow Cytometry (Intracellular) staining using rabbit Anti-ASS1 antibody

Overlay histogram showing HeLa cells stained with ab210451 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilized with 90% methanol (-20°C) for 30 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab210451, 1/500 dilution) for 30 min at 22°C.

Isotype control antibody (black line) was rabbit IgG (monoclonal) Phycoerythrin (ab209478) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 50mW Yellow-Green laser (561nm) and 586/15 bandpass filter.



Immunocytochemistry/ Immunofluorescence - PE Anti-ASS1 antibody [EPR12398] (ab210451)

ASS1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ASS1 antibody

ab210451 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 ab210451 at 1/500 dilution and ab195884 (Rat monoclonal to Tubulin - Alexa Fluor® 647) at 1/100 dilution overnight at 4°C. Nuclear DNA was labelled in blue with DAPI.
Image was taken with a confocal microscope (Leica-Microsystems TCS SP8).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.