abcam

ab191165

Anti-ASS1 antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human ASS1 aa 150-250 conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link P00966
Purification technique	Precipitation Ammonium Sulphate
Concentration	1.45 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000

Notes	-

Predicted

Species	Rat, Cow
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/75
Notes	-

Expected

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

Predicted

Species	Rat, Cow
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/10 - 1/50
Notes	-

Expected

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

Predicted

Species	Rat, Cow
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Predicted

Species	Rat, 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 duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

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

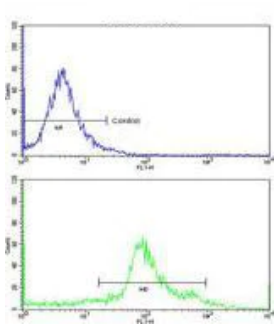
We do not recommend this combination. It is not covered by our product promise.

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.

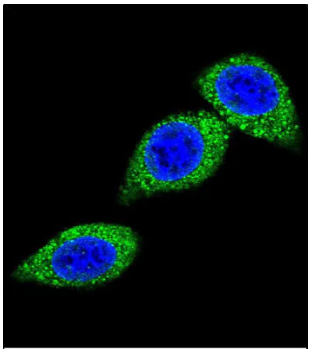
5 product images



Flow Cytometry (Intracellular) - Anti-ASS1 antibody (ab191165)

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

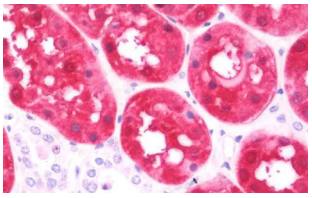
Intracellular flow cytometric analysis of WiDr cells labeling ASS1 with ab191165 at 1/10 dilution (lower histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Immunocytochemistry/ Immunofluorescence - Anti-ASS1 antibody (ab191165)

ASS1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ASS1 antibody

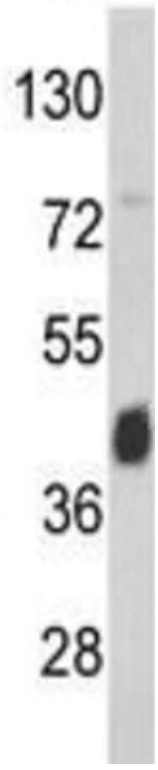
Immunofluorescent analysis of HeLa cells labeling ASS1 with ab191165 at 1/10 dilution followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green). DAPI was used to stain the cell nuclear (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ASS1 antibody (ab191165)

ASS1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ASS1 antibody

Immunohistochemical analysis of formalin-fixed, paraffin-embedded Human kidney tissue labeling ASS1 with ab191165 at 1/75 dilution.

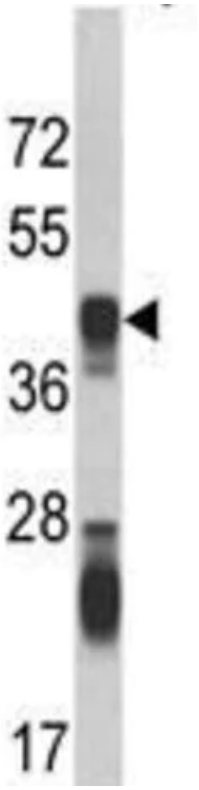


Western blot - Anti-ASS1 antibody (ab191165)

All lanes:
Western blot - Anti-ASS1 antibody (ab191165) at 1/1000 dilution

All lanes:
HeLa cell lysate at 35 µg

Predicted band size: 47 kDa



Western blot - Anti-ASS1 antibody (ab191165)

All lanes:
Western blot - Anti-ASS1 antibody (ab191165) at 1/1000 dilution

All lanes:
Mouse kidney tissue lysate at 35 µg

Predicted band size: 47 kDa

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