abcam

ab151547

Anti-Spermine synthase antibody [EPR9253]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR9253
Purification technique	Affinity purification Protein A
Concentration	0.109 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Expected

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human

Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information Spermine synthase

Function	Catalyzes the production of spermine from spermidine and decarboxylated S-adenosylmethionine (dcSAM).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

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	Spermine synthase also recognized as SMS is an enzyme that catalyzes the conversion of spermidine to spermine. Mechanically it transfers an aminopropyl group from decarboxylated S-adenosylmethionine to spermidine resulting in spermine. This enzyme is around 43 kDa in size and is ubiquitously expressed in various tissues with notable expression in the liver and kidney. It plays an essential role in the polyamine biosynthetic pathway contributing to cellular growth and differentiation.
Biological function summary	The enzyme fosters cellular functions by modulating spermine levels which are necessary for stabilizing DNA RNA and ribosome structures. It does not exist as part of a larger complex but works closely with other enzymes in the polyamine synthesis process. Spermine contributes to cellular homeostasis influencing ion channel activity and defending against oxidative stress. The balanced production of spermine by spermine synthase represents its importance in maintaining normal cellular physiology.
Pathways	Spermine synthase plays an important role in the polyamine metabolic pathway converting spermidine to spermine finalizing the chain of polyamine biosynthesis. It interacts closely with enzymes like ornithine decarboxylase which facilitates the initial steps of polyamine synthesis and spermidine synthase which precedes spermine formation. The pathway is fundamental to cell proliferation apoptosis and differentiation processes emphasizing the enzyme's pivotal part in cell biology.
Associated diseases and disorders	Alterations in spermine synthase activity associate with Snyder-Robinson syndrome and cancer. Snyder-Robinson syndrome connected to mutations in the SMS gene results in neurodevelopmental difficulties and skeletal abnormalities. In cancer dysregulation of polyamine synthesis where spermine synthase is implicated contributes to uncontrolled cellular proliferation. Changes in spermine levels impact other proteins including ornithine decarboxylase and other polyamine pathway enzymes which participate in disease progression.

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

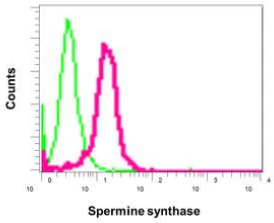
We do not recommend this combination. It is not covered by our product promise.

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.

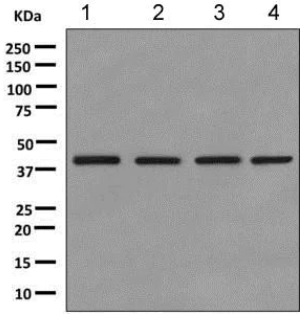
3 product images



Flow Cytometry (Intracellular) - Anti-Spermine synthase antibody [EPR9253] (ab151547)

Spermine synthase Flow Cytometry (Intracellular) staining using rabbit Anti-Spermine synthase antibody

Intracellular flow cytometric analysis of permeabilized HeLa cells labeling Spermine synthase (red) with ab151547 at 1/10 dilution, compared to a nonspecific control antibody (green).



Western blot - Anti-Spermine synthase antibody [EPR9253] (ab151547)

Spermine synthase Western blot staining using rabbit Anti-Spermine synthase antibody

All lanes:
Western blot - Anti-Spermine synthase antibody [EPR9253] (ab151547) at 1/1000 dilution

Lane 1:
Human fetal heart lysate at 10 µg

Lane 2:
HeLa lysate at 10 µg

Lane 3:
Jurkat lysate at 10 µg

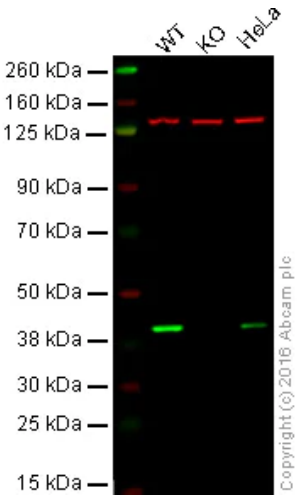
Lane 4:

K562 lysate at 10 µg

Secondary

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

Predicted band size: 41 kDa



Western blot - Anti-Spermine synthase antibody [EPR9253] (ab151547)

Spermine synthase Western blot staining using rabbit Anti-Spermine synthase antibody

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: Spermine synthase knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lanes 1 - 3: Merged signal (red and green). Green - ab151547 observed at 40 kDa. Red - loading control, ab18058, observed at 124 kDa.
ab151547 was shown to specifically react with Spermine synthase when Spermine synthase knockout samples were used. Wild-type and Spermine synthase knockout samples were subjected to SDS-PAGE. ab151547 and ab18058 (loading control to vinculin) were both diluted 1/1000 and incubated overnight at 4°C. 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 1/10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Spermine synthase antibody [EPR9253] (ab151547)

Predicted band size: 41 kDa

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