abcam

ab248003

Anti-LSS antibody [EPR6704(B)] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR6704(B)
Purification technique	Affinity purification Protein A
Dissociation constant	6.2 x 10^{-11} M
Concentration	1.035 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human

Dilution info	-
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information LSS

Function	Key enzyme in the cholesterol biosynthesis pathway. Catalyzes the cyclization of (S)-2,3 oxidosqualene to lanosterol, a reaction that forms the sterol nucleus (PubMed:14766201, PubMed:26200341, PubMed:7639730). Through the production of lanosterol may regulate lens protein aggregation and increase transparency (PubMed:26200341).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab248003 is the carrier-free version of ab124785.

Species reactivity

Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	The LSS protein also known as lanosterol synthase plays a mechanical role in the biosynthesis of sterols. Its main function involves the cyclization of 23-oxidosqualene to lanosterol. LSS has a molecular weight of approximately 83 kDa.

	It is expressed widely across various tissues with notable presence in the liver adrenal glands and reproductive organs. This enzyme resides within the endoplasmic reticulum membrane reflecting its involvement in cholesterol synthesis.
Biological function summary	LSS catalyzes an important step in the conversion of squalene a precursor to the steroid skeleton into lanosterol. This function places LSS as an important contributor in the cholesterol biosynthesis pathway. LSS forms part of the sterol biosynthesis complex interacting with other enzymes to facilitate the production of essential sterols. By producing lanosterol LSS acts as a precursor gateway for other steroid hormones and molecules.
Pathways	Cholesterol homeostasis and steroidogenesis heavily depend on LSS activity. The enzyme operates within the mevalonate pathway an important cholesterol-producing route and is essential for the synthesis of isoprenoids. It interacts closely with HMG-CoA reductase an important regulator of cholesterol levels highlighting its central role in maintaining cellular lipid balance. Through its enzymatic action LSS links the synthesis of cholesterol with downstream steroid hormones.
Associated diseases and disorders	LSS has associations with conditions such as lathosterolosis a rare autosomal recessive disorder affecting cholesterol biosynthesis. Mutations in the LSS gene disrupt normal cholesterol production contributing to developmental abnormalities. Additionally LSS has connections to hypercholesterolemia having indirect relations through the cholesterol metabolism pathway which also involves the LDL receptor. These dysfunctions highlight the importance of LSS in maintaining systemic lipid homeostasis.

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

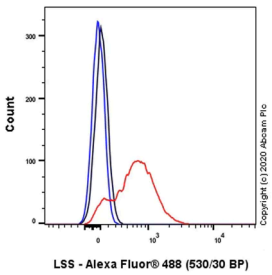
We do not recommend this combination. It is not covered by our product promise.

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

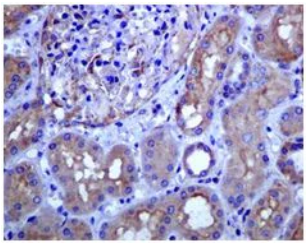


Flow Cytometry (Intracellular) - Anti-LSS antibody [EPR6704(B)] - BSA and Azide free (ab248003)

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

This data was developed using ab124785, the same antibody clone in a different buffer formulation.

Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling LSS with purified ab124785 at 1/100 dilution (10 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).

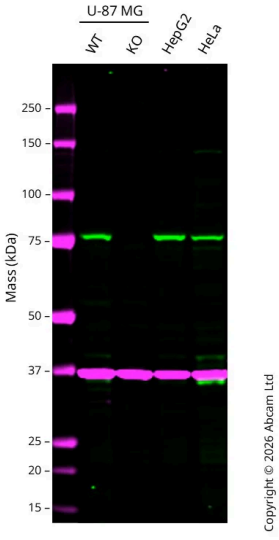


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LSS antibody [EPR6704(B)] - BSA and Azide free (ab248003)

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

This data was developed using ab124785, the same antibody clone in a different buffer formulation.

ab124785 at 1/50 dilution staining LSS in paraffin-embedded Human kidney tissues by Immunohistochemistry. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Western blot - Anti-LSS antibody [EPR6704(B)] - BSA and Azide free (ab248003)

LSS Western blot staining using rabbit Anti-LSS antibody

This data was developed using ab124785, the same antibody clone in a different buffer formulation.

Western blot: Anti-LSS antibody [EPR6704(B)] ab124785 staining at 1/50000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 80 kDa in Wild-type U-87 MG cell line with no signal observed at this size in LSS knockout U-87 MG cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-LSS antibody [EPR6704(B)] (ab124785) at 1/50000 dilution

Lane 1:
Wild-type U-87 MG cell lysates at 20 µg

Lane 2:
LSS knockout U-87 MG cell lysates at 20 µg

Lane 3:
HepG2 cell lysates at 20 µg

Lane 4:
HeLa cell lysates at 20 µg

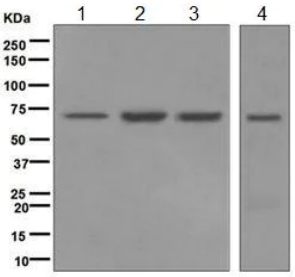
Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 83 kDa

Observed band size: 80 kDa



Western blot - Anti-LSS antibody [EPR6704(B)] - BSA and Azide free (ab248003)

This data was developed using ab124785, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-LSS antibody [EPR6704(B)] (ab124785) at 1/50000 dilution

Lane 1:
SH-SY5Y cell lysate at 10 µg

Lane 2:
HeLa cell lysate at 10 µg

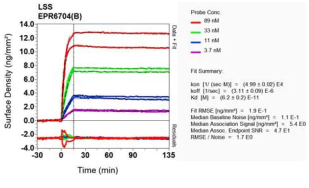
Lane 3:
HT-1376 cell lysate at 10 µg

Lane 4:
Human fetal liver tissue lysate at 10 µg

Secondary

All lanes:
Standard HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 83 kDa



OI-RD Scanning - Anti-LSS antibody [EPR6704(B)] - BSA and Azide free (ab248003)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published

literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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