abcam

ab234418

Anti-SLFN12 antibody [EPR20904-32]

Anti-SLFN12 antibody [EPR20904-32] (ab234418) is a rabbit monoclonal antibody detecting SLFN12 in **Western Blot, Flow Cytometry (Intra), IHC-Fr**. Suitable for **Human**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency

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	EPR20904-32
Purification technique	Affinity purification Protein A
Concentration	0.753 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Recombinant fragment - Human

Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Recombinant fragment - Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Recombinant fragment - Human
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant fragment - Human
Dilution info	1/500
Notes	-

Species	Human
Dilution info	1/500
Notes	-

IHC-Fr

Tested

Species	Human
Dilution info	1/100

Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/60
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information SLFN12

Function	Ribonuclease which is part of an E2/17beta-estradiol-induced pro-apoptotic signaling pathway. E2 stabilizes the PDE3A/SLFN12 complex in the cytosol, promoting the dephosphorylation of SLFN12 and activating its pro-apoptotic ribosomal RNA/rRNA ribonuclease activity. This apoptotic pathway might be relevant in tissues with high concentration of E2 and be for instance involved in placenta remodeling (PubMed:31420216, PubMed:34272366, PubMed:34707099, PubMed:35104454). May play a role in cell differentiation (PubMed:30045019).

Storage

Shipped at conditions	Conditional Ambient
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

Notes

What is this antibody validated in?
Anti-SLFN12 antibody [EPR20904-32] (ab234418) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-Fr) in Human samples.

What is the molecular weight of SLFN12?
Anti-SLFN12 [EPR20904-32] (ab234418) specifically detects a band for SLFN12 (UniProt: Q8IYM2) at a molecular weight of 67kDa.

Specificity confirmed
The specificity of Anti-SLFN12 antibody [EPR20904-32] (ab234418) has been confirmed by Western blot testing in SLFN12 Knockout HeLa cells.

Other related products
We have a range of other formats of antibody clone [EPR20904-32] also available for your convenience: ab234418, Carrier free - ab256300, PE - ab317888, APC - ab317925, Alexa Fluor® 488 - ab317965, Alexa Fluor® 594 - ab318006, Alexa Fluor® 555 - ab318048, Alexa Fluor® 647 - ab318090, Alexa Fluor® 750 - ab321476

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

	SLFN12 also known as Schlafen family member 12 is a protein that plays a role in protein synthesis regulation and innate immunity. It carries a mass of approximately 65 kDa. The protein shows expression in multiple human tissues including the colon small intestine and prostate. SLFN12 contains a notable AAA+ ATPase domain which suggests involvement in processes requiring energy such as molecular chaperone activity. Researchers have studied its expression pattern noting its presence at the cellular level which hints at diverse functional implications across various cells.
Biological function summary	SLFN12 modulates the differentiation of cells and appears to play a role in immune response. It does not form part of a large protein complex. It functions independently to exert effects specifically influencing maturation of specific immune cells and contributing to maintaining cellular homeostasis. Its role in differentiation makes it significant in balancing immune responses ensuring cells reach necessary maturity to perform their function in defense mechanisms.
Pathways	Studies highlight that SLFN12 contributes to the regulation of protein synthesis and the immune response pathway. In the synthesis pathway it potentially interacts with ribosomal proteins to regulate production of proteins modulating cell homoeostasis and growth. Meanwhile its involvement in the immune response pathway shows interaction with other SLFN family proteins altering cellular responses to microbial infections. Research also suggests it operates alongside proteins like SLFN11 to ensure effective cellular defense against pathogenic attacks.
Associated diseases and disorders	Researchers have associated SLFN12 with inflammatory bowel disease and certain types of cancer such as prostate cancer. Its expression patterns in inflamed tissue suggest that SLFN12 may mediate inflammatory responses exacerbating or alleviating the condition. In prostate cancer SLFN12 seems to interact with the androgen receptor pathway potentially influencing cancer cell proliferation. Understanding these interactions and their pathological consequences will provide insights into its role in disease mechanisms and offer perspectives for therapeutics targeting SLFN12-mediated pathways.

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

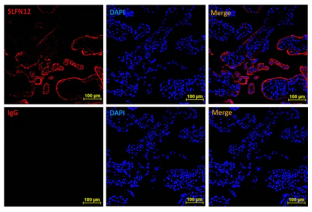
We do not recommend this combination. It is not covered by our product promise.

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.

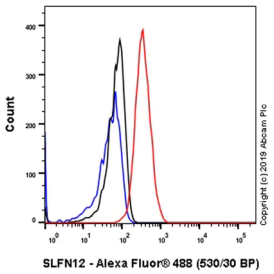
4 product images



Immunohistochemistry (Frozen sections) - Anti-SLFN12 antibody [EPR20904-32] (ab234418)

SLFN12 Immunohistochemistry (Frozen sections) staining using rabbit Anti-SLFN12 antibody

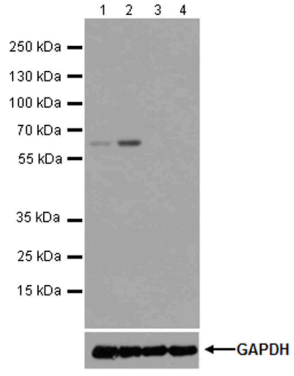
Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen human placenta tissue labeling SLFN12 with ab234418 at 1/100 dilution (green), followed by Donkey anti-Rabbit IgG (H+L) secondary antibody, Alexa Fluor® 555 secondary at a 1/100 dilution. Positive staining in syncytiotrophoblast of human placenta is observed. Counterstained with DAPI (blue). Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Donkey anti-Rabbit IgG (H+L) secondary antibody, Alexa Fluor® 555 used at a 1/100 dilution. Heat mediated antigen retrieval using sodium citrate buffer (10 mM citrate pH 6.0 and 0.05% Tween-20). The image is kindly provided by Dr Xiaodong Wang.



Flow Cytometry (Intracellular) - Anti-SLFN12 antibody [EPR20904-32] (ab234418)

SLFN12 Flow Cytometry (Intracellular) staining using rabbit Anti-SLFN12 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cell line labeling SLFN12 with ab234418 at 1/60 (red) compared with a Rabbit monoclonal IgG (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077), at 1/2000 dilution was used as the secondary antibody.



Western blot - Anti-SLFN12 antibody [EPR20904-32] (ab234418)

SLFN12 Western blot staining using rabbit Anti-SLFN12 antibody

Blocking/Dilution buffer: 5% Defatted milk.
The image is kindly provided by Dr Xiaodong Wang.

ab234418 was shown to specifically react with SLFN12 in wild-type Hela cells as signal was lost in SLFN12 knockout cells. Wild-type and SLFN12 knockout samples were subjected to SDS-PAGE. ab234418 and anti-GAPDH antibody were incubated 8 hours at 4 °C at 1/500 dilution and 1/2000 dilution respectively. Blots were developed with Goat Anti-Rabbit IgG, (whole molecule), Peroxidase conjugated secondary antibody at 1/20,000 dilution for 1 hour at room temperature before imaging. The blot was developed on a BIO-RAD® ChemiDoc™ MP instrument using the ECL technique.

All lanes:

Western blot - Anti-SLFN12 antibody [EPR20904-32] (ab234418) at 1/500 dilution

Lane 1:
Wild-type HeLa (human cervix adenocarcinoma epithelial cell) treated with DMSO for 12 hours, whole cell lysate at 30 µg

Lane 2:
Wild-type HeLa treated with 17β-estradiol (5 µM) for 12 hours, whole cell lysate at 30 µg

Lane 3:
SLFN12 knockout HeLa treated with DMSO for 12 hours, whole cell lysate at 30 µg

Lane 4:
SLFN12 knockout HeLa treated with 17β-estradiol (5 µM) for 12 hours, whole cell lysate at 30 µg

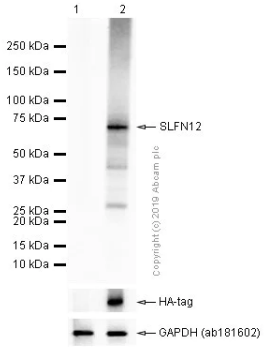
Secondary

All lanes:
Anti-Rabbit IgG (whole molecule)–Peroxidase antibody produced in goat at 1/2000 dilution

Predicted band size: 66 kDa

Observed band size: 67 kDa

Exposure time: 5s



SLFN12 plasmid was kindly provided by an anonymous collaborator.

Western blot - Anti-SLFN12 antibody [EPR20904-32] (ab234418)

Blocking/Diluting buffer and concentration: 5% NFDM/TBST.
All lanes:
Western blot - Anti-SLFN12 antibody [EPR20904-32] (ab234418) at 1/500 dilution

Lane 1:
HEK-293 (human embryonic kidney) transfected with an empty vector (vector control) containing HA- tag® whole cell lysates at 15 µg

Lane 2:
HEK-293 (human embryonic kidney) transfected with SLFN12 (Q8IYM2) (WT) expression vector containing HA-tag®, whole cell lysate at 15 µg

Secondary

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

Developed using the ECL technique.

Predicted band size: 66 kDa

Observed band size: 67 kDa

Exposure time: 10s

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