abcam

ab271354

Anti-SLFN11 antibody [EPR24414-87]

Anti-SLFN11 antibody [EPR24414-87] (ab271354) is a rabbit monoclonal antibody detecting SLFN11 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | 20ul selling size

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	EPR24414-87
Purification technique	Affinity purification Protein A
Concentration	0.542 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/50

Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/1000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information SLFN11

Function	Inhibitor of DNA replication that promotes cell death in response to DNA damage (PubMed:22927417, PubMed:26658330, PubMed:29395061). Acts as a guardian of the genome by killing cells with defective replication (PubMed:29395061). Persistently blocks stressed replication forks by opening chromatin across replication initiation sites at stressed replication forks, possibly leading to unwind DNA ahead of the MCM helicase and block fork progression, ultimately leading to cell death (PubMed:29395061). Upon DNA damage, inhibits translation of ATR or ATM based on distinct codon usage without disrupting early DNA damage response signaling (PubMed:30374083). Antiviral restriction factor with manganese-dependent type II tRNA endoribonuclease (PubMed:36115853). A single tRNA molecule is bound and cleaved by the SLFN11 dimer (PubMed:36115853). Specifically abrogates the production of retroviruses such as human immunodeficiency virus 1 (HIV-1) by acting as a specific inhibitor of the synthesis of retroviruses encoded proteins in a codon-usage-dependent manner (PubMed:23000900). Impairs the replication of human cytomegalovirus (HCMV) and some Flaviviruses (PubMed:35105802, PubMed:36115853). Exploits the unique viral codon bias towards A/T nucleotides (PubMed:23000900). Also acts as an interferon (IFN)-induced antiviral protein which acts as an inhibitor of retrovirus protein synthesis (PubMed:23000900).

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-SLFN11 antibody [EPR24414-87] (ab271354) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of SLFN11?
Anti-SLFN11 [EPR24414-87] (ab271354) specifically detects a band for SLFN11 (UniProt: Q7Z7L1) at a molecular weight of 103kDa.

Other related products

We have a range of other formats of antibody clone [EPR24414-87] also available for your convenience: ab271354, Carrier free - ab283232

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary	SLFN11 also known as Schlafen family member 11 is an important protein involved in the regulation of cellular response to DNA damage. With a molecular mass of approximately 104 kDa SLFN11 is extensively expressed in tumor cells and certain normal tissues particularly in the spleen thymus and testis. This protein contributes to the modulation of interferon-mediated immune responses and impacts translational control by tRNA activation playing a role in ribosomal assembly and function.
Biological function summary	SLFN11 functions to enhance the sensitivity of cells to DNA-damaging agents including chemotherapeutic drugs. It is important for impairing replication fork stability by inhibiting the expression of trans-translation machinery. SLFN11 serves as an important determinant within the DNA damage response (DDR) network and is known to interact with other DDR proteins emphasizing its impact on genome integrity and cellular survival under stress conditions.
Pathways	SLFN11 plays a notable role within the pathways associated with the DNA damage response and cell cycle regulation. The protein interacts notably with the ATR signaling pathway which is essential for sensing DNA damage. Additionally SLFN11 forms part of a complex interaction with other DNA repair proteins such as BRCA1 influencing the homologous recombination repair pathway contributing to the cellular determination of treatment response.
Associated diseases and disorders	SLFN11 has significant implications in cancer particularly in the context of treatment response to chemotherapy. Cancers with high SLFN11 expression often exhibit increased sensitivity to cisplatin and other DNA-damaging agents pointing to its potential role as a biomarker for therapeutic efficacy. Moreover the protein is implicated in neurodegenerative disorders like amyotrophic lateral sclerosis (ALS)

where its regulation could contribute to the pathophysiology. Its relationship with proteins such as p53 further highlights SLFN11's involvement in cancer and neuroprotection 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

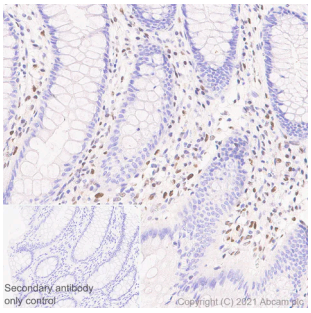
We do not recommend this combination. It is not covered by our product promise.

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.

9 product images

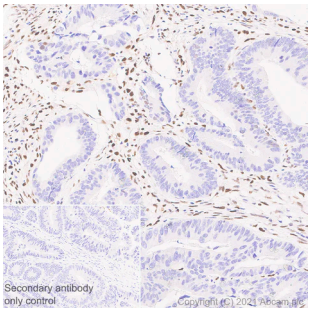


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SLFN11 antibody [EPR24414-87] (ab271354)

SLFN11 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SLFN11 antibody

Immunohistochemical analysis of paraffin-embedded Human colon tissue labelling SLFN11 with 271354 at 1/1000 (0.547 ug/ml) dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Nuclear staining on stromal cells of human colon. The section was incubated with ab271354 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

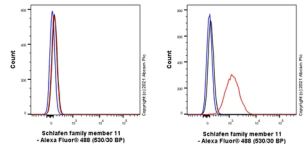


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SLFN11 antibody [EPR24414-87] (ab271354)

SLFN11 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SLFN11 antibody

Immunohistochemical analysis of paraffin-embedded Human colon carcinoma tissue labelling SLFN11 with 271354 at 1/1000 (0.547 ug/ml) dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Nuclear staining on human colon carcinoma. The section was incubated with ab271354 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

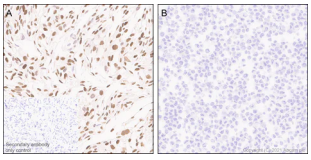
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Flow Cytometry (Intracellular) - Anti-SLFN11 antibody [EPR24414-87] (ab271354)

SLFN11 Flow Cytometry (Intracellular) staining using rabbit Anti-SLFN11 antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized K-562 (Human chronic myelogenous leukemia lymphoblast, Left) /DU 145 (Human prostate carcinoma epithelial cell, Right) cells labelling SLFN11 with 271354 at 1/500 dilution (0.1ug)/ red (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody. Low expression cell line: K-562 (PMID:29395061).

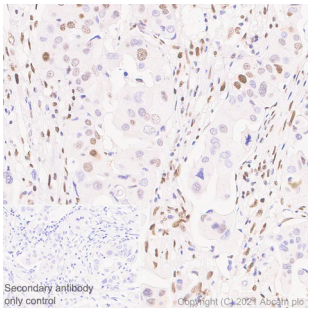


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SLFN11 antibody [EPR24414-87] (ab271354)

SLFN11 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SLFN11 antibody

Immunohistochemical analysis of paraffin-embedded A-172 (human brain glioblastoma) (A) and K562 (human chronic myelogenous leukemia lymphoblast) (B) tissue labelling SLFN11 with 271354 at 1/1000 (0.547 ug/ml) dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Nuclear staining on A-172 cells (A), and no staining on K-562 cells (B). Low expression cell line: K562 (PMID: 29395061).The section was incubated with ab271354 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

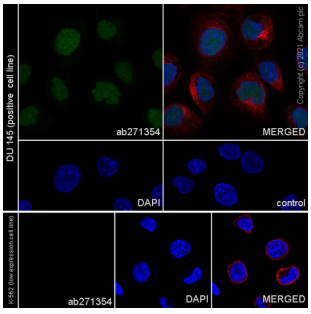


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SLFN11 antibody [EPR24414-87] (ab271354)

SLFN11 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SLFN11 antibody

Immunohistochemical analysis of paraffin-embedded Human breast carcinoma tissue labelling SLFN11 with 271354 at 1/1000 (0.547 ug/ml) dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Nuclear staining on human breast cancer. The section was incubated with ab271354 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

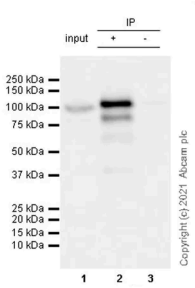
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunocytochemistry/ Immunofluorescence - Anti-SLFN11 antibody [EPR24414-87] (ab271354)

SLFN11 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SLFN11 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized DU 145 cells labelling SLFN11 with 271354 at 1/50 (10.94 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green) Confocl image showing positive staining in DU145 cells. Low expression cell line: K-562 (PMID:29395061) is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5 ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2ug/ml dilution.



Immunoprecipitation - Anti-SLFN11 antibody [EPR24414-87] (ab271354)

SLFN11 was immunoprecipitated from 0.35 mg DU145 (human prostate carcinoma epithelial cell) whole cell lysate 10 ug with 271354 at 1/30 dilution (2 ug in 0.35 mg lysates). Western blot was performed on the immunoprecipitate using 271354 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.
Lane 1: DU145 (human prostate carcinoma epithelial cell) whole cell lysate 10 ug

Lane 2: ab271354 IP in DU145 whole cell lysate

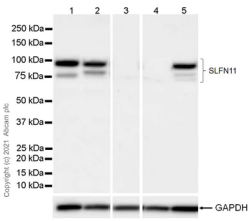
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab271354 in DU145 whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 5 seconds

All lanes:
Immunoprecipitation - Anti-SLFN11 antibody [EPR24414-87] (ab271354)

Predicted band size: 103 kDa



Western blot - Anti-SLFN11 antibody [EPR24414-87] (ab271354)

SLFN11 Western blot staining using rabbit Anti-SLFN11 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
The molecular weight observed is consistent with what has been described in the literature (PMID: 31118262).

Low expression cell line: K562, HEK-293T (PMID: 29395061, 31118262).

Exposure time: 37 seconds

All lanes:
Western blot - Anti-SLFN11 antibody [EPR24414-87] (ab271354) at 1/1000 dilution

Lane 1:
DU145 (human prostate carcinoma epithelial cell), whole cell lysate at 20 µg

Lane 2:
A-172 (human brain glioblastoma), whole cell lysate at 20 µg

Lane 3:
K562 (human chronic myelogenous leukemia lymphoblast), whole cell lysate at 20 µg

Lane 4:
HEK-293T (human embryonic kidney epithelial cell), whole cell lysate at 20 µg

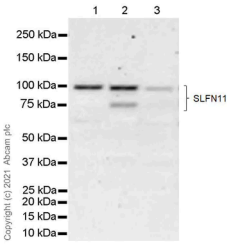
Lane 5:
Jurkat (human T cell leukemia T lymphocyte), whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 103 kDa

Observed band size: 75-100 kDa



Western blot - Anti-SLFN11 antibody [EPR24414-87] (ab271354)

SLFN11 Western blot staining using rabbit Anti-SLFN11 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
The molecular weight observed is consistent with what has been described in the literature (PMID: 31118262).

Exposure time: 3 minutes

All lanes:
Western blot - Anti-SLFN11 antibody [EPR24414-87] (ab271354) at 1/1000 dilution

Lane 1:
Human lung tissue lysates at 20 µg

Lane 2:
Human lung cancer tissue lysates at 20 µg

Lane 3:
Human colon cancer tissue lysates at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 103 kDa

Observed band size: 75-100 kDa

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