abcam

ab223256

Anti-splicing factor 1 antibody [EPR22437-50]

Recombinant | RabMAb

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	EPR22437-50
Purification technique	Affinity purification Protein A
Concentration	0.51 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	This protein is easy to be degraded, to minimize protein degradation, cells/tissues were lysed immediately after harvest and then applied to a gel and transfer membrane for Western blotting right away.

ICC/IF

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/4000
Notes	-

Species	Rat
Dilution info	1/4000
Notes	-

Species	Human
Dilution info	1/4000
Notes	-

Target data

See full target information SF1

Function	Necessary for the ATP-dependent first step of spliceosome assembly. Binds to the intron branch point sequence (BPS) 5'-UACUAAC-3' of the pre-mRNA. May act as transcription repressor.

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

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	Splicing factor 1 also known as SF1 or mBBP plays an important role in the splicing of pre-mRNA. It binds to the branch point sequence of intronic regions facilitating the assembly of the spliceosome complex necessary for excising introns and joining exons. The protein has a molecular mass of approximately 75 kDa. SF1 is

	expressed in a variety of tissues indicating its fundamental role in mRNA processing across different cell types.
Biological function summary	The protein engages in the early stages of spliceosome complex formation working in concert with other splicing factors such as U2AF and SF3b. SF1 is a specific component required in spliceosome assembly contributing to the recognition of correct splice sites. This step is essential for ensuring the accuracy and efficiency of mRNA splicing which is critical for generating mature mRNA transcripts ready for translation. SF1’s involvement with the spliceosome complex itself highlights its importance in cell function regulation.
Pathways	SF1's activity influences the splicing pathway. This pathway a part of the comprehensive gene expression mechanism is essential for regulating cellular processes through mRNA modification. SF1 interacts with proteins like U2AF65 and U2 snRNP vital components of the spliceosome to facilitate splicing. Additionally SF1 indirectly impacts alternative splicing pathways thereby contributing to mRNA diversity and functionality.
Associated diseases and disorders	Aberrant SF1 function relates to cancer and neurological disorders. Alterations in SF1 expression or mutations can disrupt normal splicing leading to dysregulation of gene expression and pathogenic outcomes. In particular SF1 has been implicated in breast cancer and spinal muscular atrophy. It connects to other proteins such as BRCA1 in cancer and SMN1 in spinal muscular atrophy highlighting how its dysregulation can contribute to disease pathogenesis. Understanding SF1's function and interactions could enhance knowledge of disease mechanisms and potential therapeutic targets.

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

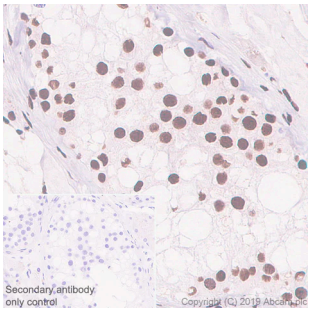
We do not recommend this combination. It is not covered by our product promise.

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.

11 product images

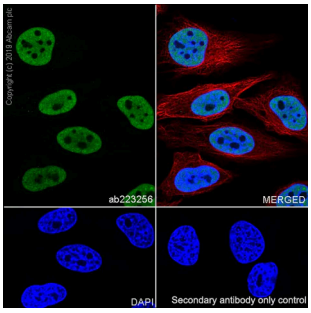


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256)

Splicing factor 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-splicing factor 1 antibody

Immunohistochemical analysis of paraffin-embedded human testis tissue labeling splicing factor 1 with ab223256 at 1/4000 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on human testis (PMID: 25145264; PMID: 20736371) is observed. The section was incubated with ab223256 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

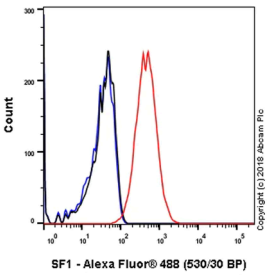
Perform heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Immunocytochemistry/ Immunofluorescence - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256)

Splicing factor 1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-splicing factor 1 antibody

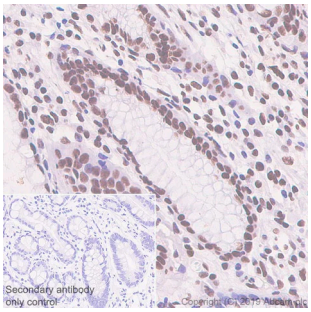
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labeling splicing factor 1 with ab223256 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing nuclear staining in HeLa cell line. The nuclear counterstain is DAPI (blue).
Tubulin is detected with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) at a 1/200 dilution (red).
Secondary antibody only control: Used PBS insread of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256)

Splicing factor 1 Flow Cytometry (Intracellular) staining using rabbit Anti-splicing factor 1 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cell line labeling splicing factor 1 with ab223256 at 1/500 dilution (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.

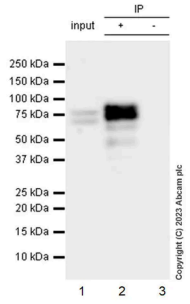


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256)

Splicing factor 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-splicing factor 1 antibody

Immunohistochemical analysis of paraffin-embedded human stomach tissue labeling splicing factor 1 with ab223256 at 1/4000 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on human stomach (PMID: 25145264) is observed. The section was incubated with ab223256 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Perform heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Immunoprecipitation - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256)

Splicing factor 1 was immunoprecipitated from HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate with ab223256 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed from the immunoprecipitate using ab223256 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used at 1/5000 dilution.

Lane 1: HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate 10 µg

Lane 2: ab223256 IP in HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab223256 in HeLa whole cell lysate

Blocking/Dilution buffer: 5% NFDM/TBST.

Lysates were freshly made and used for Western blotting immediately to minimize protein degradation.

All lanes:
Immunoprecipitation - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate at 10 µg

Lane 2:
ab223256 IP in HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate

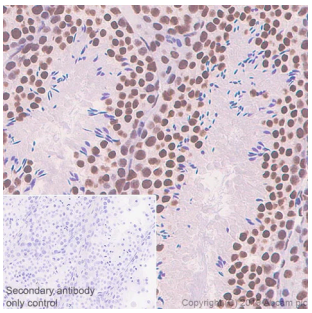
Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Predicted band size: 68 kDa

Observed band size: 70 kDa, 80 kDa

Exposure time: 15s

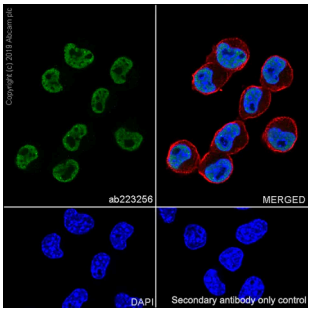


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256)

Splicing factor 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-splicing factor 1 antibody

Immunohistochemical analysis of paraffin-embedded mouse testis tissue labeling splicing factor 1 with ab223256 at 1/4000 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on mouse testis (PMID: 25145264) is observed. The section was incubated with ab223256 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

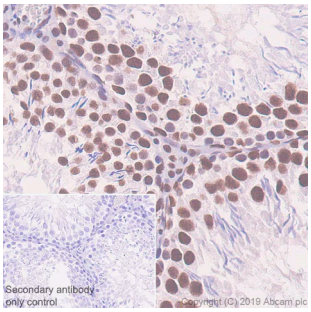
Perform heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Immunocytochemistry/ Immunofluorescence - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256)

Splicing factor 1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-splicing factor 1 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Neuro-2a (mouse neuroblastoma neuroblast) cells labeling splicing factor 1 with ab223256 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing nuclear staining in Neuro-2a cell line. The nuclear counterstain is DAPI (blue).
Tubulin is detected with with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) at a 1/200 dilution (red).
Secondary antibody only control: Used PBS instead of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.

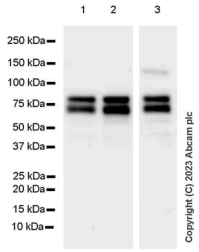


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256)

Splicing factor 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-splicing factor 1 antibody

Immunohistochemical analysis of paraffin-embedded rat testis tissue labeling splicing factor 1 with ab223256 at 1/4000 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on rat testis (PMID: 25145264) is observed. The section was incubated with ab223256 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Perform heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Western blot - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256)

Blocking and dilution buffer: 5% NFDM/TBST.

The molecular weight observed is consistent with what has been described in the literature (PMID:8752089; PMID: 17383426; PMID:10103072; PMID: 25145264).

Lysates were freshly made and used for Western blotting immediately to minimize protein degradation.

All lanes:
Western blot - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Lane 3:
PC-12 (rat adrenal gland pheochromocytoma cell) whole cell lysate at 20 µg

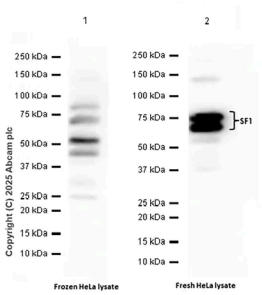
Secondary

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

Predicted band size: 68 kDa

Observed band size: 70 kDa, 80 kDa

Exposure time: 26s



Western blot - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256)

Splicing factor 1 Western blot staining using rabbit Anti-splicing factor 1 antibody

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

This protein is easy to be degraded, to minimize protein degradation, cells/tissues were lysed immediately after harvest and then applied to a gel and transfer membrane for Western blotting right away.

All lanes:
Western blot - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) frozen lysate at 20 µg

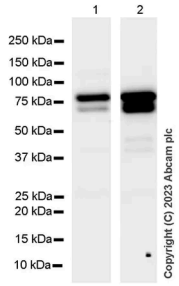
Lane 2:
HeLa (human cervical adenocarcinoma epithelial cell) fresh lysate at 20 µg

Secondary

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

Observed band size: 70-80 kDa

Exposure time: 7s



Western blot - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256)

Blocking and dilution buffer: 5% NFDM/TBST.

The molecular weight observed is consistent with what has been described in the literature (PMID:8752089; PMID: 17383426; PMID:10103072; PMID: 25145264).

Lysates were freshly made and used for Western blotting immediately to minimize protein degradation.

All lanes:
Western blot - Anti-splicing factor 1 antibody [EPR22437-50] (ab223256) at 1/1000 dilution

Lane 1:
Mouse brain tissue lysate at 20 µg

Lane 2:
Mouse testis tissue lysate at 20 µg

Secondary

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

Observed band size: 70 kDa, 80 kDa

Exposure time: 26s

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