abcam

ab317502

Anti-ASF1A antibody [EPR28755-1]

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	EPR28755-1
Purification technique	Affinity purification Protein A
Concentration	0.496 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Recombinant fragment - Human
Dilution info	1/1000
Notes	-

Species	Human

Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

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

IHC-P

Not recommended

Species	Human, Mouse, Rat, Recombinant fragment - Human
Dilution info	-

Notes	-

IP

Not recommended

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

ICC/IF

Not recommended

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

Target data

See full target information ASF1A

Function

Histone chaperone that facilitates histone deposition and histone exchange and removal during nucleosome assembly and disassembly (PubMed:10759893, PubMed:11897662, PubMed:12842904, PubMed:14718166, PubMed:15664198, PubMed:16151251, PubMed:21454524). Cooperates with chromatin assembly factor 1 (CAF-1) to promote replication-dependent chromatin assembly and with HIRA to promote replication-independent chromatin assembly (PubMed:11897662, PubMed:14718166, PubMed:15664198). Promotes homologous recombination-mediated repair of double-strand breaks (DSBs) at stalled or collapsed replication forks: acts by mediating histone replacement at DSBs, leading to recruitment of the MMS22L-TONSL complex and subsequent loading of RAD51 (PubMed:29478807). Also involved in the nuclear import of the histone H3-H4 dimer together with importin-4 (IPO4): specifically recognizes and binds newly synthesized histones with the monomethylation of H3 'Lys-9' and acetylation at 'Lys-14' (H3K9me1K14ac) marks, and diacetylation at 'Lys-5' and 'Lys-12' of H4 (H4K5K12ac) marks in the cytosol (PubMed:21454524, PubMed:29408485). Required for the formation of senescence-associated heterochromatin foci (SAHF) and efficient senescence-associated cell cycle exit (PubMed:15621527).

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	ASF1A also known as Anti-silencing Function 1A is a histone chaperone protein with a molecular weight of approximately 22 kDa. This protein aids in the assembly and disassembly of chromatin by facilitating the transfer of histones H3 and H4 to nascent DNA strands during replication and repair processes. ASF1A is expressed in various tissues including high levels in actively dividing cells such as those in the testes and bone marrow. It plays a critical role in maintaining cellular proliferative capacity.
Biological function summary	ASF1A is part of the chromatin remodeling machinery ensuring proper chromatin dynamics and genome integrity. It acts in conjunction with other proteins such as CAF-1 and HIRA as part of the histone deposition process. ASF1A contributes to DNA replication repair and transcription regulation. Through interaction with these complexes ASF1A supports the replacement of histones during S-phase and post-replication repair which is essential for cell cycle progression and genome stability.

Pathways	ASF1A has significant engagement in pathways associated with DNA replication and chromatin modification. It operates within the DNA damage checkpoint pathway where it collaborates with proteins like ATR and CHK1 to ensure proper DNA damage response and cell cycle control. ASF1A also associates with the replication fork protection pathway important for the stabilization of halted replication forks and prevention of genomic instability.
Associated diseases and disorders	ASF1A has connections to certain cancers and neurodegenerative disorders. Its overexpression or dysregulation links to ovarian and lung cancers due to its role in promoting uncontrolled cell proliferation. ASF1A's involvement in ensuring DNA replication fidelity implicates it in disorders like Alzheimer's disease where genomic instability and improper cell division may play a role. Proteins such as p53 and BRCA1 which are key regulators in these conditions show indirect or direct interactions with ASF1A highlighting its importance in disease pathophysiology.

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

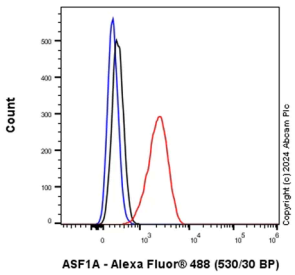
We do not recommend this combination. It is not covered by our product promise.

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.

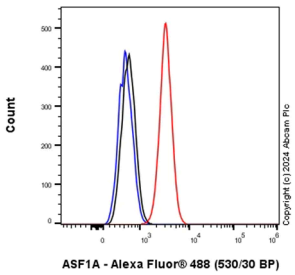
5 product images



Flow Cytometry (Intracellular) - Anti-ASF1A antibody [EPR28755-1] (ab317502)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling ASF1A with ab317502 at 1/500 dilution (0.1 ug)/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).

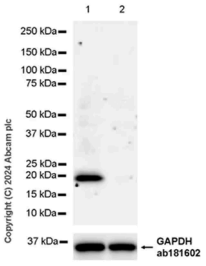
Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-ASF1A antibody [EPR28755-1] (ab317502)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling ASF1A with ab317502 at 1/500 dilution (0.1 ug)/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).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Western blot - Anti-ASF1A antibody [EPR28755-1] (ab317502)

ASF1A Western blot staining using rabbit Anti-ASF1A antibody

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-ASF1A antibody [EPR28755-1] (ab317502) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) transfected with scrambled siRNA control whole cell lysate at 20 µg

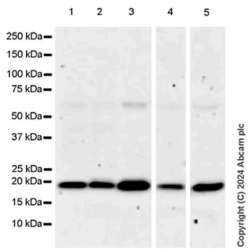
Lane 2:
HeLa transfected with siRNA specifically targeting ASF1A whole cell lysate at 20 µg

Secondary

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

Observed band size: 19 kDa, 36 kDa

Exposure time: 180s



Western blot - Anti-ASF1A antibody [EPR28755-1] (ab317502)

ASF1A Western blot staining using rabbit Anti-ASF1A antibody

All lanes:
Western blot - Anti-ASF1A antibody [EPR28755-1] (ab317502) at 1/1000 dilution

Lane 1:
HCT 116 (human colorectal carcinoma epithelial cell) whole cell lysate at 30 µg

Lane 2:
SW480 (human colorectal adenocarcinoma epithelial cell) whole cell lysate at 30 µg

Lane 3:
Jurkat (human t cell leukemia t lymphocyte from peripheral blood) whole cell lysate at 30 µg

Lane 4:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 30 µg

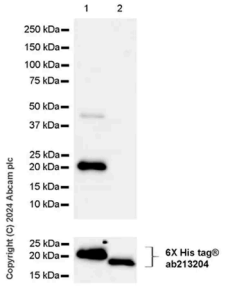
Lane 5:
WEHI-231 (mouse b cell lymphoma b lymphocyte) whole cell lysate at 30 µg

Secondary

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

Observed band size: 19 kDa

Exposure time: 158s



Western blot - Anti-ASF1A antibody [EPR28755-1] (ab317502)

ASF1A Western blot staining using rabbit Anti-ASF1A antibody

This antibody does not cross-react with human ASF1B.

In Western blot, Anti-6X His tag® antibody [EPR20547] - ChIP Grade (ab213204) staining at 1/5000 dilution.

All lanes:
Western blot - Anti-ASF1A antibody [EPR28755-1] (ab317502) at 1/1000 dilution

Lane 1:
His-tagged human ASF1A recombinant protein at 10 ng

Lane 2:
His-tagged human ASF1B recombinant protein at 10 ng

Secondary

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

Observed band size: 19 kDa, 18 kDa

Exposure time: 10s

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