abcam

ab240196

Anti-hnRNP A1 antibody [EPR12768] - 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	EPR12768
Purification technique	Affinity purification Protein A

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information HNRNPA1

Function	Involved in the packaging of pre-mRNA into hnRNP particles, transport of poly(A) mRNA from the nucleus to the cytoplasm and modulation of splice site selection (PubMed:17371836). Plays a role in the splicing of pyruvate kinase PKM by binding repressively to sequences flanking PKM exon 9, inhibiting exon 9 inclusion and resulting in exon 10 inclusion and production of the PKM M2 isoform (PubMed:20010808). Binds to the IRES and thereby inhibits the translation of the apoptosis protease activating factor APAF1 (PubMed:31498791). May bind to specific miRNA hairpins (PubMed:28431233). (Microbial infection) May play a role in HCV RNA replication. (Microbial infection) Cleavage by Enterovirus 71 protease 3C results in increased translation of apoptosis protease activating factor APAF1, leading to apoptosis.

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

ab240196 is the carrier-free version of ab177152.

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	Heterogeneous nuclear ribonucleoprotein A1 (hnRNP A1) also known just as hnRNP A1 is a multifunctional protein that plays important roles in RNA processing mechanisms. It is a member of the hnRNP protein family involved in the packaging of nascent pre-mRNA. hnRNP A1 has a molecular mass of approximately 34-38 kDa and shows a widespread expression in various cells and tissues. This protein is recognized for its ability to bind to RNA molecules contributing to their proper processing splicing and transport within the cellular context.
Biological function summary	HnRNP A1 is involved in RNA binding and splicing contributing to the formation of spliceosomes the complexes responsible for pre-mRNA splicing. The protein aids in alternative splicing influencing mRNA diversity and stability. hnRNP A1 interacts

	with other proteins in the hnRNP family remodeling ribonucleoprotein complexes and affecting their functions. These interactions ensure proper mRNA maturation impacting gene expression regulation within the cell.
Pathways	HnRNP A1 is integral to critical cellular mechanisms such as the regulation of mRNA transport and splicing. It influences the DNA damage response pathway by modulating gene expression required for cellular repair and stability. hnRNP A1 also cooperates with other RNA binding proteins like the splicing factors SR proteins to orchestrate the splicing machinery. These interactions are pivotal in maintaining cellular homeostasis and response to stress.
Associated diseases and disorders	HnRNP A1 is notably related to neurodegenerative diseases like Amyotrophic Lateral Sclerosis (ALS) and certain types of cancer. Abnormalities in its expression or mutations can lead to disrupted cellular processes contributing to disease pathology. In ALS dysregulation of hnRNP A1 affects neuronal RNA metabolism and is associated with the TDP-43 protein a marker of neurodegeneration. In cancer hnRNP A1 influences tumor development through its role in alternative splicing and gene expression modification linking it to oncogenic signaling 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

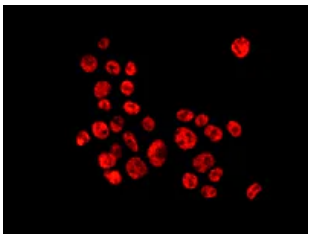
We do not recommend this combination. It is not covered by our product promise.

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.

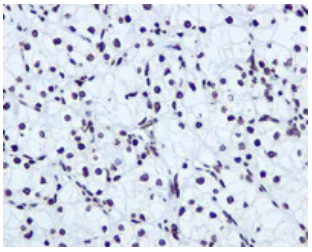
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-hnRNP A1 antibody [EPR12768] - BSA and Azide free (ab240196)

HnRNP A1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-hnRNP A1 antibody

Immunofluorescent analysis of HepG2 cells labeling hnRNP A1 with ab177152 at 1/100 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab177152).

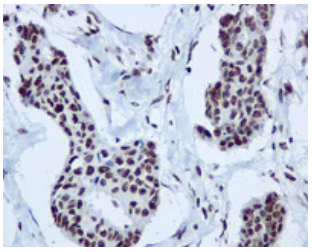


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP A1 antibody [EPR12768] - BSA and Azide free (ab240196)

HnRNP A1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-hnRNP A1 antibody

Immunohistochemical analysis of paraffin-embedded Human clear cell carcinoma tissue labeling hnRNP A1 with ab177152 at 1/50 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab177152).

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

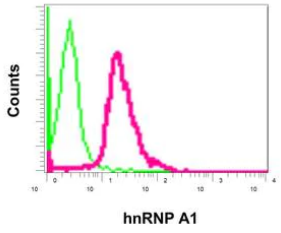


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP A1 antibody [EPR12768] - BSA and Azide free (ab240196)

HnRNP A1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-hnRNP A1 antibody

Immunohistochemical analysis of paraffin-embedded Human breast carcinoma tissue labeling hnRNP A1 with ab177152 at 1/50 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab177152).

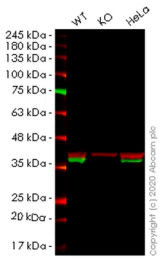
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-hnRNP A1 antibody [EPR12768] - BSA and Azide free (ab240196)

HnRNP A1 Flow Cytometry (Intracellular) staining using rabbit Anti-hnRNP A1 antibody

Intracellular flow cytometric analysis of permeabilized Jurkat cells labeling hnRNP A1 with ab177152 at 1/10 dilution (red), or a rabbit IgG (negative) (green).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab177152).



Western blot - Anti-hnRNP A1 antibody [EPR12768] - BSA and Azide free (ab240196)

HnRNP A1 Western blot staining using rabbit Anti-hnRNP A1 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab177152).
Lanes 1-3: Merged signal (red and green). Green - ab177152 observed at 37 kDa. Red - loading control ab8245 observed at 36 kDa.

ab177152 Anti-hnRNP A1 antibody [EPR12768] was shown to specifically react with hnRNP A1 in wild-type HEK293T cells. Loss of signal was observed when knockout cell line ab266193 (knockout cell lysate ab256942) was used. Wild-type and hnRNP A1 knockout samples were subjected to SDS-PAGE. ab177152 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-hnRNP A1 antibody [EPR12768] (ab177152) at 1/1000 dilution

Lane 1:
Wild-type HEK293T cell lysate at 20 µg

Lane 2:
HNRNPA1 knockout HEK293T cell lysate at 20 µg

Lane 2:
Western blot - Human HNRNPA1 knockout HEK-293T cell line (ab266193)

Lane 3:
HeLa cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 23 kDa, 25 kDa, 33 kDa, 38 kDa, 53 kDa, 72 kDa

Observed band size: 25 kDa, 27 kDa, 37 kDa, 38 kDa, 58 kDa, 72 kDa

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