abcam

ab259894

Anti-hnRNP A2B1 antibody [EPR24002-81]

Recombinant | RabMAb | KO Validated | 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	EPR24002-81
Purification technique	Affinity purification Protein A
Concentration	0.507 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-Fr

Tested

Species	Mouse
Dilution info	0.05 µg/mL
Notes	-

Species	Human

Dilution info	0.05 µg/mL
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/5000
Notes	-

Species	Rat
Dilution info	1/5000
Notes	-

Species	Human
Dilution info	1/5000
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500

Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Expected

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

Target data

See full target information HNRNPA2B1

Function

Heterogeneous nuclear ribonucleoprotein (hnRNP) that associates with nascent pre-mRNAs, packaging them into hnRNP particles. The hnRNP particle arrangement on nascent hnRNA is non-random and sequence-dependent and serves to condense and stabilize the transcripts and minimize tangling and knotting. Packaging plays a role in various processes such as transcription, pre-mRNA processing, RNA nuclear export, subcellular location, mRNA translation and stability of mature mRNAs (PubMed:19099192). Forms hnRNP particles with at least 20 other different hnRNP and heterogeneous nuclear RNA in the nucleus. Involved in transport of specific mRNAs to the cytoplasm in oligodendrocytes and neurons: acts by specifically recognizing and binding the A2RE (21 nucleotide hnRNP A2 response element) or the A2RE11 (derivative 11 nucleotide oligonucleotide) sequence motifs present on some mRNAs, and promotes their transport to the cytoplasm (PubMed:10567417). Specifically binds single-stranded telomeric DNA sequences, protecting telomeric DNA repeat against endonuclease digestion (By similarity). Also binds other RNA molecules, such as primary miRNA (pri-miRNAs): acts as a nuclear 'reader' of the N6-methyladenosine (m6A) mark by specifically recognizing and binding a subset of nuclear m6A-containing pri-miRNAs. Binding to m6A-containing pri-miRNAs promotes pri-miRNA processing by enhancing binding of DGCR8 to pri-miRNA transcripts (PubMed:26321680). Involved in miRNA sorting into exosomes following sumoylation, possibly by binding (m6A)-containing pre-miRNAs (PubMed:24356509). Acts as a regulator of efficiency of mRNA splicing, possibly by binding to m6A-containing pre-mRNAs (PubMed:26321680). 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). Also plays a role in the activation of the innate immune response (PubMed:31320558). Mechanistically, senses the presence of viral DNA in the nucleus, homodimerizes and is demethylated by JMJD6 (PubMed:31320558). In turn, translocates to the cytoplasm where it activates the TBK1-IRF3 pathway, leading to interferon alpha/beta production (PubMed:31320558). (Microbial infection) Involved in the transport of HIV-1 genomic RNA out of the nucleus, to

	the microtubule organizing center (MTOC), and then from the MTOC to the cytoplasm: acts by specifically recognizing and binding the A2RE (21 nucleotide hnRNP A2 response element) sequence motifs present on HIV-1 genomic RNA, and promotes its transport.

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	HnRNP A2B1 sometimes referred to as heterogeneous nuclear ribonucleoprotein A2/B1 is a multifunctional protein involved in RNA binding and processing. It has a molecular mass of about 38-43 kDa. The protein is expressed in various tissues with high expression levels observed in the brain and liver. hnRNP A2B1 participates in a range of RNA-related processes playing a significant role in mRNA metabolism and transport.

Biological function summary	HnRNP A2B1 contributes to alternative splicing RNA stability and translational regulation. This protein typically associates with complex assemblies that manage RNA processing and transport mechanisms. It interacts with other proteins within the heterogeneous nuclear ribonucleoprotein family collaborating in the regulation of mRNA cycling between the nucleus and cytoplasm affecting gene expression patterns.
Pathways	HnRNP A2B1 exhibits critical involvement in the mRNA splicing pathway and RNA transport pathways. It frequently interacts with proteins such as hnRNP A1 and hnRNP C where they collectively influence pre-mRNA processing and splicing dictating proper RNA maturation and cell function. These pathways are important for maintaining cellular homeostasis and responding to cellular signals.
Associated diseases and disorders	HnRNP A2B1 is linked to neurodegenerative diseases and certain cancers. Abnormal expression or mutations of hnRNP A2B1 are associated with Alzheimer's disease implicating the protein in amyloid precursor protein processing. Additionally dysregulation of this protein shows correlation with breast cancer progression. Proteins like tau and other hnRNPs connect with hnRNP A2B1 in these conditions suggesting a significant role in pathological states.

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

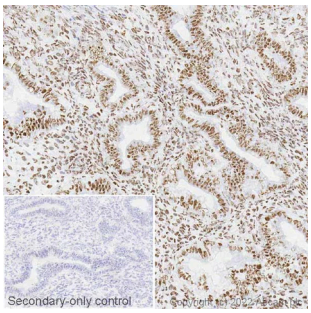
We do not recommend this combination. It is not covered by our product promise.

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.

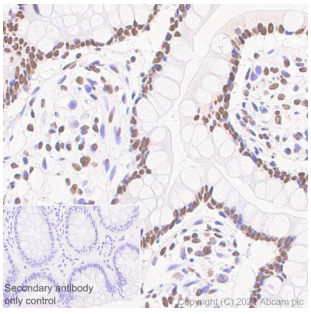
13 product images



Immunohistochemistry (Frozen sections) - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Immunohistochemistry (Frozen sections) staining of Frozen normal human uterus tissue using rabbit Anti-hnRNP A2B1 antibody

IHC image of hnRNP A2B1 staining in a section of frozen normal human uterus performed on a Leica Biosystems BOND® RX instrument using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab259894, 0.05 µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody. For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times. Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre.

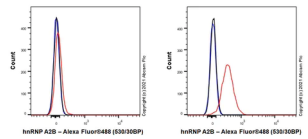


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-hnRNP A2B1 antibody

Immunohistochemical analysis of paraffin-embedded Human colon tissue labelling hnRNP A2B1 with ab259894 at 1/5000 (0.105 ug/ml) dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Nuclear staining on human colon. The section was incubated with ab259894 for 10 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).

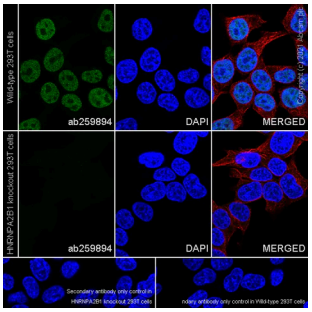
Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins



Flow Cytometry (Intracellular) - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Flow Cytometry (Intracellular) staining using rabbit Anti-hnRNP A2B1 antibody

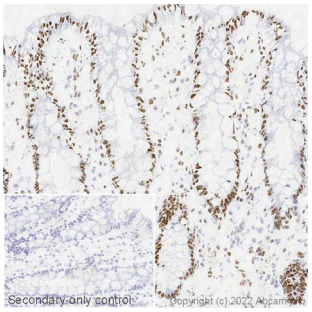
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Wild-type HEK-293T (human embryonic kidney epithelial cell) (Right) and hnRNP A2B1 knockout HEK-293T cells (Left) cells labelling hnRNP A2B1 with ab259894 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat F(ab')2 Anti-Rabbit IgG (DyLight® 488, ab98507) at 1/500 dilution was used as the secondary antibody. Positive staining on 293T cells (ab255449), while no staining on hnRNP A2B1 knockout HEK-293T cells (ab266404).



Immunocytochemistry/ Immunofluorescence - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-hnRNP A2B1 antibody

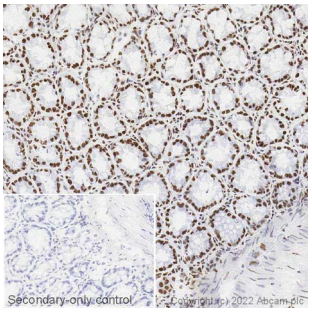
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T cells labelling hnRNP A2B1 with ab259894 at 1/1000 (0.525 ug/mL) dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150081) preadsorbed antibody at 1/1000 (2 ug/mL) dilution (Green). Confocal image showing nuclear staining in 293T cells and nearly no staining in HNRNPA2B1 knockout 293T cells. 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 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150081) preadsorbed at 1/1000 (2 ug/mL) dilution.



Immunohistochemistry (Frozen sections) - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Immunohistochemistry (Frozen sections) staining of Frozen normal human colon tissue using rabbit Anti-hnRNP A2B1 antibody

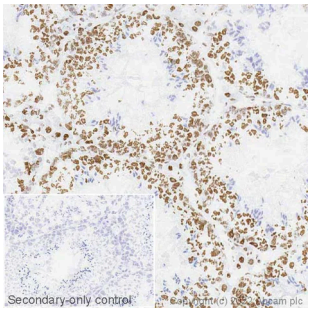
IHC image of hnRNP A2B1 staining in a section of frozen normal human colon performed on a Leica Biosystems BOND® RX instrument using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab259894, 0.05 µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody. For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunohistochemistry (Frozen sections) - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Immunohistochemistry (Frozen sections) staining of Frozen normal mouse large intestine tissue using rabbit Anti-hnRNP A2B1 antibody

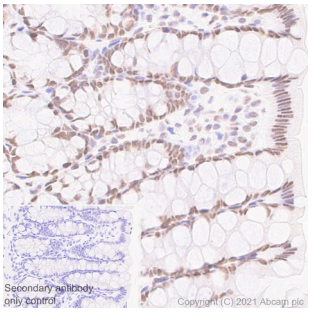
IHC image of hnRNP A2B1 staining in a section of frozen normal mouse large intestine performed on a Leica Biosystems BOND® RX instrument using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab259894, 0.05 µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody. For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunohistochemistry (Frozen sections) - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Immunohistochemistry (Frozen sections) staining of Frozen normal mouse testis tissue using rabbit Anti-hnRNP A2B1 antibody

IHC image of hnRNP A2B1 staining in a section of frozen normal mouse testis performed on a Leica Biosystems BOND® RX instrument using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab259894, 0.05 µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody. For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

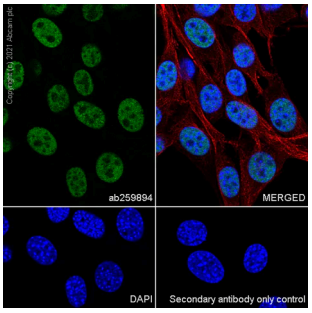


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-hnRNP A2B1 antibody

Immunohistochemical analysis of paraffin-embedded Rat colon tissue labelling hnRNP A2B1 with ab259894 at 1/5000 (0.105 ug/ml) dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Nuclear staining on rat colon. The section was incubated with ab259894 for 10 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).

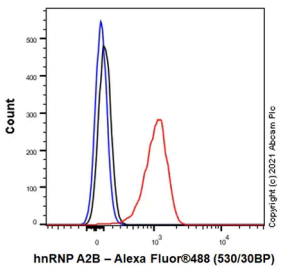
Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins



Immunocytochemistry/ Immunofluorescence - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-hnRNP A2B1 antibody

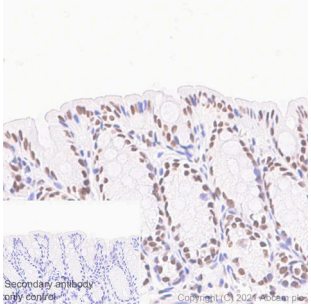
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 cells labelling hnRNP A2B1 with ab259894 at 1/1000 (0.525 ug/mL) dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150081) preadsorbed antibody at 1/1000 (2 ug/mL) dilution (Green). Confocal image showing nuclear staining in NIH/3T3 cells. 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 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150081) preadsorbed at 1/1000 (2 ug/mL) dilution.



Flow Cytometry (Intracellular) - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Flow Cytometry (Intracellular) staining using rabbit Anti-hnRNP A2B1 antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH/3T3 (Mouse embryonic fibroblast) cells labelling hnRNP A2B1 with ab259894 at 1/500 dilution (0.1ug) (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 F(ab')2 Anti-Rabbit IgG(DyLight® 488, ab98507) at 1/500 dilution was used as the secondary antibody.

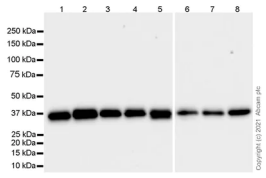


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-hnRNP A2B1 antibody

Immunohistochemical analysis of paraffin-embedded Mouse colon tissue labelling hnRNP A2B1 with ab259894 at 1/5000 (0.105 ug/ml) dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Nuclear staining on mouse colon. The section was incubated with ab259894 for 10 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 Citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins



Western blot - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Western blot staining using rabbit Anti-hnRNP A2B1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
Exposure time: 26 seconds

All lanes:
Western blot - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894) at 1/1000 dilution

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

Lane 2:
A431 (human epidermoid carcinoma epithelial cell), whole cell lysate at 20 µg

Lane 3:
MCF7 (human breast adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Lane 4:
K562 (human chronic myelogenous leukemia lymphoblast), whole cell lysate at 20 µg

Lane 5:
HepG2 (human hepatocellar carcinoma epithelial cell), whole cell lysate at 20 µg

Lane 6:
NIH/3T3 (mouse embryonic fibroblast), whole cell lysate at 20 µg

Lane 7:
RAW264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage), whole cell lysate at 20 µg

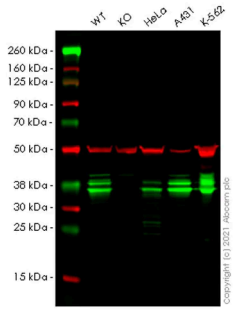
Lane 8:
PC-12 (rat adrenal gland pheochromocytoma), whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution

Predicted band size: 37 kDa

Observed band size: 36 kDa, 38 kDa



Western blot - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894)

HnRNP A2B1 Western blot staining using rabbit Anti-hnRNP A2B1 antibody

Blocking and diluting buffer and concentration: Intercept® (TBS) Blocking Buffer diluted with an equal volume of 0.1% TBS
Lanes 1- 4: Merged signal (red and green). Green - ab259894 observed at 36/38kDa. Red - loading control ab7291 (Mouse monoclonal [DM1A] to alpha Tubulin) observed at 50 kDa.

Lanes 1-2: ab259894 Anti-hnRNP A2B1 antibody was shown to react with hnRNP A2B1 in HEK-293T cells in Western blot. Loss of signal was observed when hnRNP A2B1 knockout cell line ab266404 (knockout cell lysate ab257224) was used. Wild-type and hnRNP A2B1 knockout samples were subjected to SDS-PAGE.

ab259894 and Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) were incubated at 4°C overnight at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat Anti-Rabbit IgG H&L (IRDye® 800CW) (ab216773) and Goat Anti-Mouse IgG H&L (IRDye® 680RD) (ab216776) secondary antibodies at 1 in 10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-hnRNP A2B1 antibody [EPR24002-81] (ab259894) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T (human embryonic kidney epithelial cell), whole cell lysate at 20 µg

Lane 2:
hnRNP A2B1 knockout HEK-293T (human embryonic kidney epithelial cell), whole cell lysate at 20 µg

Lane 2:
Western blot - Human HNRNPA2B1 knockout HEK-293T cell line (ab266404)

Lane 3:
HeLa (human cervix adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Lane 4:
A431 (human epidermoid carcinoma epithelial cell), whole cell lysate at 20 µg

Lane 5:
K562 (human chronic myelogenous leukemia lymphoblast), whole cell lysate at 20 µg

Secondary

All lanes:

Goat Anti-Rabbit IgG H&L (IRDye® 800CW) (ab216773) and Goat Anti-Mouse IgG H&L (IRDye® 680RD) (ab216776) at 1/10000 dilution

Predicted band size: 37 kDa

Observed band size: 36 kDa, 38 kDa

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