abcam

ab302576

# Alexa Fluor® 555 Anti-hnRNP A2B1 antibody [EPR24002-81]

Recombinant | RabMAb | KO Validated

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Conjugation** | Alexa Fluor® 555 |
| **Excitation/Emission** | Ex: 555nm, Em: 565nm |
| **Storage buffer** | pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% 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** | 0.5 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## ICC/IF

**Tested**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Expected

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

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/100 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/100 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/100 |
| **Notes** | - |

## Flow Cyt (Intra)

### Expected

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

## Target data

See full target information HNRNPA2B1

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|---|---|
| **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

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| **Shipped at conditions** | Blue Ice |
| **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, Store in the dark |

## Notes

**Want a custom formulation?**
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

**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.

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## 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**

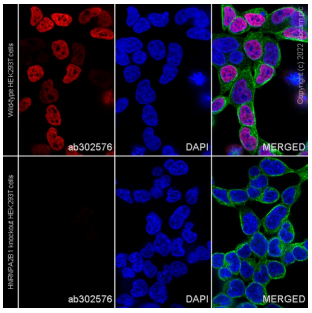
We do not recommend this combination. It is not covered by our product promise.

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.

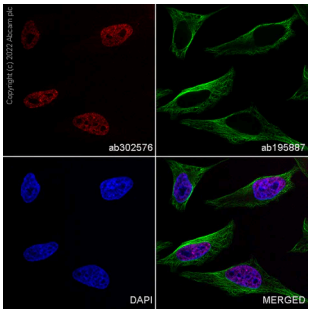
Full details and terms and conditions can be found here:
Terms & Conditions.

## 5 product images



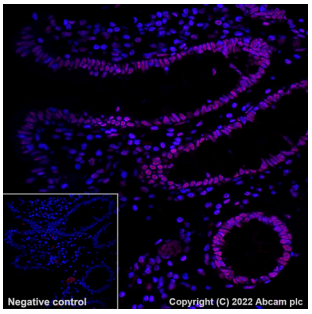

## Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 555 Anti-hnRNP A2B1 antibody [EPR24002-81] (ab302576)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HNRNPA2B1 KO HEK293T (ab266404) cells labelling hnRNP A2B1 with ab302576 at 1/50 (10.0 ug/ml) dilution, followed by antibody at 1/None dilution (Green). Confocal image showing nuclear staining in 293T cells and nearly no staining in HNRNPA2B1 knockout 293T cells. is observed. ab195887 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 488) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is at 1/None dilution.



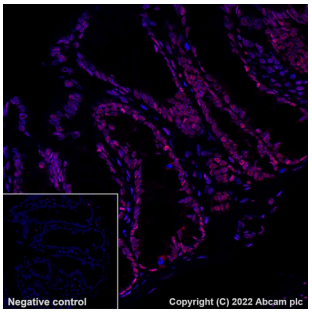

## Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 555 Anti-hnRNP A2B1 antibody [EPR24002-81] (ab302576)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (Human cervix adenocarcinoma epithelial cell) cells labelling hnRNP A2B1 with ab302576 at 1/50 (10.0 ug/ml) dilution, followed by antibody at 1/None dilution (Green). Confocal image showing nuclear staining in HeLa cell line is observed. is observed. ab195887 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 488) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is at 1/None dilution.



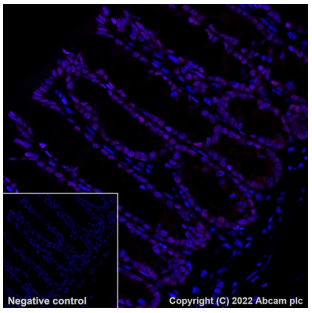

## Immunohistochemistry - Alexa Fluor® 555 Anti-hnRNP A2B1 antibody [EPR24002-81] (ab302576)

Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling hnRNP A2B1 with ab302576 at 1/100 (5.0 ug/ml) followed by a at dilution. Nuclear staining on human colon.The section was incubated with ab302576 for 60 mins at room temperature (shown in red). Nuclear DNA was labeled with DAPI (shown in blue). The section was then mounted using Fluoromount®.The immunostaining was performed on a Leica Biosystems BOND RX instrument.Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). Counterstained with DAPI. Secondary antibody only control: Secondary antibody is at dilution.Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 40 mins




## Immunohistochemistry - Alexa Fluor® 555 Anti-hnRNP A2B1 antibody [EPR24002-81] (ab302576)

Immunohistochemical analysis of paraffin-embedded Rat colon tissue labeling hnRNP A2B1 with ab302576 at 1/100 (5.0 ug/ml) followed by a at dilution. Nuclear staining on rat colon.The section was incubated with ab302576 for 60 mins at room temperature (shown in red). Nuclear DNA was labeled with DAPI (shown in blue). The section was then mounted using Fluoromount®.The immunostaining was performed on a Leica Biosystems BOND RX instrument.Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). Counterstained with DAPI. Secondary antibody only control: Secondary antibody is at dilution.Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 40 mins




# Immunohistochemistry - Alexa Fluor® 555 Anti-hnRNP A2B1 antibody [EPR24002-81] (ab302576)

Immunohistochemical analysis of paraffin-embedded Mouse colon tissue labeling hnRNP A2B1 with ab302576 at 1/100 (5.0 ug/ml) followed by a at dilution. Nuclear staining on mouse colon.The section was incubated with ab302576 for 60 mins at room temperature (shown in red). Nuclear DNA was labeled with DAPI (shown in blue). The section was then mounted using Fluoromount®.The immunostaining was performed on a Leica Biosystems BOND RX instrument.Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). Counterstained with DAPI. Secondary antibody only control: Secondary antibody is at dilution.Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 40 mins

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