abcam

ab305171

Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - 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	EPR26106-92
Purification technique	Affinity purification Protein A
Specificity	Unsuitable for human IHC-P.
Concentration	1.015 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human, Mouse, Rat, Recombinant fragment - Mouse

Dilution info	-
Notes	-

IP

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment - Mouse
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	This antibody is not suitable for human species in IHC-P application.

Species	Rat
Dilution info	-
Notes	This antibody is not suitable for human species in IHC-P application.

Not recommended

Species	Human
Dilution info	-
Notes	This antibody is not suitable for human species in IHC-P application.

Species	Recombinant fragment - Mouse
Dilution info	-
Notes	-

ICC/IF

Not recommended

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

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment - Mouse
Dilution info	-
Notes	-

Target data

See full target information MSI1

Function	RNA binding protein that regulates the expression of target mRNAs at the translation level. Regulates expression of the NOTCH1 antagonist NUMB. Binds RNA containing the sequence 5'-GUUAGUUAGUUAGUU-3' and other sequences containing the pattern 5'-[GA]U(1-3)AGU-3'. May play a role in the proliferation and maintenance of stem cells in the central nervous system (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

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.

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	Musashi 1 also known as Msi1 is an RNA-binding protein with a mass of about 39 kDa. Msi1 is present in high levels in neural tissue and certain stem cells. It works mechanically by recognizing and binding to specific RNA sequences impacting the fate of the mRNA. Musashi 1 regulates the translation and stability of its target mRNA affecting protein synthesis at the post-transcriptional level. Its expression is not limited to neural tissues but is also detected in other tissues where stem or progenitor cells are present.
Biological function summary	In neural stem cells and other tissue types Musashi 1 plays an important role in maintaining stem cell identity. Musashi 1 forms part of a complex that controls the translation of mRNAs involved in cell fate decisions. It acts by repressing or activating the translation of key regulatory proteins that guide stem cell maintenance and differentiation processes. This protein is also involved in cellular proliferation by influencing the translation of mRNAs tied to cell cycle regulation.
Pathways	The function of Musashi 1 lies within critical signaling pathways such as Notch and Wnt. It facilitates these pathways by regulating the translation of downstream effectors which are necessary for cellular communication and differentiation. Musashi 1 associates with proteins like Numb a known Notch signaling inhibitor and β-catenin from the Wnt pathway modulating their effects on cell cycle progression and stem cell fate.
Associated diseases and disorders	Musashi 1’s abnormal expression is often linked to conditions like glioblastoma and colorectal cancer. High levels of Musashi 1 can promote tumor growth due to its role in cell proliferation and differentiation pathways. In glioblastoma its expression relates closely with other oncogenic proteins such as Numb and Notch altering normal regulatory mechanisms. In colorectal cancer Musashi 1’s interaction with β-catenin further drives tumorigenesis highlighting its potential as a target for therapeutic interventions.

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

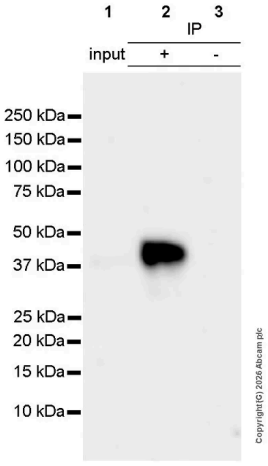
We do not recommend this combination. It is not covered by our product promise.

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



Immunoprecipitation - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

This data was developed using ab305170, the same antibody clone in a different buffer formulation.
Musashi 1 / MSI1 was immunoprecipitated from HAP1 (human chronic myelogenous leukemia near-haploid cell line) whole cell lysate 10 µg with ab305170 1/1000 dilution. Western blot was performed on the immunoprecipitate using ab305170 at 1/1000 dilution. Capture antibody, 1:30 dilution (2µg in 0.35mg lysates).

Rabbit monoclonal IgG (ab172730) Isotype Control was used instead of ab305170 in HAP1 whole cell lysate (Lane 3).

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

All lanes:
Immunoprecipitation - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] (ab305170) at 1/1000 dilution

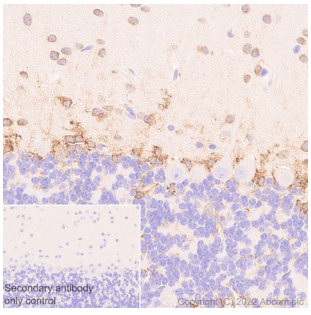
All lanes:
HAP1 human chronic myelogenous leukemia near-haploid cell line) whole cell lysate

Secondary

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

Observed band size: 39 kDa

Exposure time: 50s

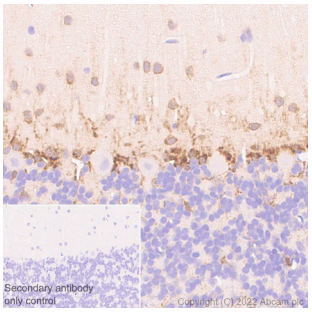


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

Musashi 1 / MSI1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse cerebellum using rabbit Anti-Musashi 1 / MSI1 antibody

This data was developed using ab305170, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin-embedded Mouse cerebellum tissue labeling Musashi 1 / Msi1 with ab305170 at 1/500 (0.918 ug/ml) followed by a ready to use

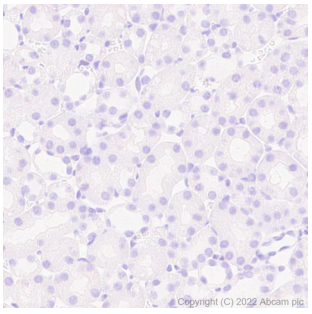
LeicaDS9800 (Bond☒ Polymer Refine Detection). Positive staining on mouse cerebellum (PMID: 11588182). The section was incubated with ab305170 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.
Positive staining on mouse cerebellum (PMID: 11588182). The section was incubated with ab305170 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

Musashi 1 / MSI1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat cerebellum using rabbit Anti-Musashi 1 / MSI1 antibody

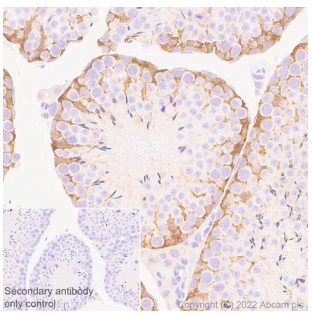
This data was developed using ab305170, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin-embedded Rat cerebellum tissue labeling Musashi 1 / Msi1 with ab305170 at 1/500 (0.918 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection). Positive staining on rat cerebellum (PMID: 11588182). The section was incubated with ab305170 for 30 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) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

Musashi 1 / MSI1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse kidney using rabbit Anti-Musashi 1 / MSI1 antibody

This data was developed using ab305170, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin-embedded Mouse kidney tissue labeling Musashi 1 / Msi1 with ab305170 at 1/500 (0.918 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection). Negative control: No staining on mouse kidney (PMID: 25717188). The section was incubated with ab305170 for 30 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) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

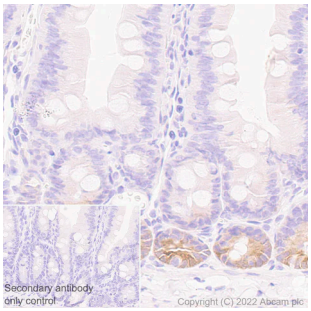


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

Musashi 1 / MSI1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse testis using rabbit Anti-Musashi 1 / MSI1 antibody

This data was developed using ab305170, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin-embedded Mouse testis tissue labeling

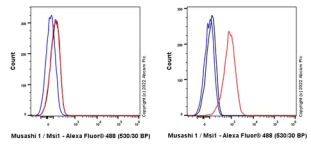
Musashi 1 / Msi1 with ab305170 at 1/500 (0.918 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection). Positive staining on mouse testis (PMID: 11804968). The section was incubated with ab305170 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

Musashi 1 / MSI1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat small intestine using rabbit Anti-Musashi 1 / MSI1 antibody

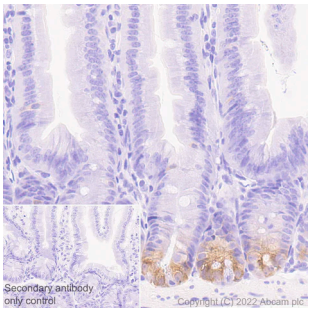
This data was developed using ab305170, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin-embedded Rat small intestine tissue labeling Musashi 1 / Msi1 with ab305170 at 1/500 (0.918 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection). Positive staining on intestinal crypts of rat (PMID: 12558601). The section was incubated with ab305170 for 30 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) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Flow Cytometry (Intracellular) - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

Musashi 1 / MSI1 Flow Cytometry (Intracellular) staining using rabbit Anti-Musashi 1 / MSI1 antibody

This data was developed using ab305170, the same antibody clone in a different buffer formulation. Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH/3T3 (mouse embryonic fibroblast, Left) / Neuro-2a (mouse neuroblastoma neuroblast, Right) cells labelling Musashi 1 / Msi1 with ab305170 at 1/50 dilution (1ug) (Red) (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 Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Negative control: NIH/3T3 (PMID: 11359897).

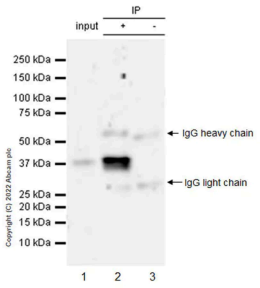


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

Musashi 1 / MSI1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse small intestine using rabbit Anti-Musashi 1 / MSI1 antibody

This data was developed using ab305170, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin-embedded Mouse small intestine tissue labeling Musashi 1 / Msi1 with ab305170 at 1/500 (0.918 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection). Positive staining on intestinal crypts of mouse (PMID: 12558601). The section was incubated with ab305170 for 30 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) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunoprecipitation - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

This data was developed using ab305170, the same antibody clone in a different buffer formulation. Musashi 1 / Msi1 was immunoprecipitated from 0.35 mg Mouse P0 brainstem tissue lysate 10 ug with ab305170 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab305170 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: Mouse P0 brainstem tissue lysate 10 ug Lane 2: ab305170 IP in Mouse P0 brainstem tissue lysate Lane 3:Rabbit monoclonal IgG (ab172730) instead of ab305170 in mouse P0 brainstem tissue lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 84 seconds
All lanes:
Immunoprecipitation - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] (ab305170) at 1/1000 dilution

Lane 1:
Mouse P0 brainstem tissue lysate 10 ug

Lane 2:
ab305170 IP in Mouse P0 brainstem tissue lysate

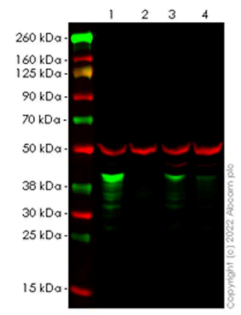
Secondary

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

Predicted band size: 39 kDa

Observed band size: 39 kDa

Exposure time: 84s



Western blot - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

This data was developed using ab305170, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: Intercept® (TBS) Blocking Buffer diluted with an equal volume of 0.1% TBS Lysates at 20 µg per lane. Performed under reducing conditions. False colour image of Western blot: Anti-Musashi 1 / Msi1 antibody [EPR26106-92] (ab305170) staining at 1/1000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (ab8245) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab305170 was shown to bind specifically to Musashi 1 / Msi1. A band was observed at 39 kDa in wild-type HAP1 cell lysates with no signal observed at this size in Musashi 1 / Msi1 knockout cell line (knockout cell lysate). To generate this image, wild-type and Musashi 1 / Msi1 knockout HAP1 cell lysates were analyzed. First, samples were run on an SDS-PAGE gel then transferred onto an immobilon-FL PVDF membrane. Membranes were blocked in in Intercept® (TBS) Blocking Buffer diluted with an equal volume of 0.1% TBS before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) at 1/20000 dilution.
All lanes:
Western blot - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] (ab305170) at 1/1000 dilution

Lane 1:
Wild-type HAP1 whole cell lysate at 20 µg

Lane 2:
Musashi 1 / Msi1 knockout HAP1 whole cell lysate at 20 µg

Lane 3:
SH-SY5Y (human neuroblastoma epithelial cell) whole cell lysate at 20 µg

Lane 4:
PC-12 (rat adrenal gland pheochromocytoma cell) whole cell lysate at 20 µg

Secondary

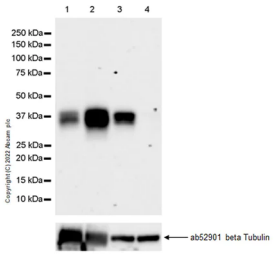
Lanes 1 - 4:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Lanes 1 - 4:
Western blot - Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 39 kDa

Observed band size: 39 kDa



Western blot - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

This data was developed using ab305170, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: 5% NFDM/TBST Negative control: NIH/3T3 (PMID:11359897). Exposure time: 59 seconds
All lanes:
Western blot - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] (ab305170) at 1/1000 dilution

Lane 1:
Mouse embryonic brain tissue lysate at 20 µg

Lane 2:
Rat embryonic brain tissue lysate at 20 µg

Lane 3:
Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

Lane 4:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

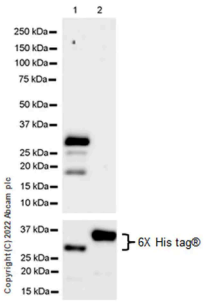
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 39 kDa

Observed band size: 39 kDa

Exposure time: 59s



Western blot - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

This data was developed using ab305170, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: 5% NFDM/TBST Both recombinant proteins were made in-house and expressed from the E. coli expression systems. This antibody does not cross-react with mouse Musashi 2 / Msi2. Exposure time: 8 seconds
All lanes:
Western blot - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] (ab305170) at 1/1000 dilution

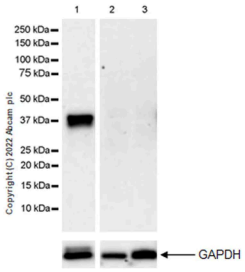
Lane 1:
His-tagged mouse Musashi 1 / Msi1 recombinant protein (aa52-251) at 10 ng

Lane 2:
His-tagged mouse Musashi 2 / Msi2 recombinant protein (aa1-346) at 10 ng

Secondary

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

Exposure time: 8s



Western blot - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] - BSA and Azide free (ab305171)

This data was developed using ab305170, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: 5% NFDM/TBST Low expression tissues: kidney, heart (PMID: 8660864). Exposure time: 3 minutes
All lanes:
Western blot - Anti-Musashi 1 / MSI1 antibody [EPR26106-92] (ab305170) at 1/1000 dilution

Lane 1:
Mouse P0 brainstem tissue lysate at 20 µg

Lane 2:
Mouse kidney tissue lysate at 20 µg

Lane 3:
Mouse heart tissue lysate at 20 µg

Secondary

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

Predicted band size: 39 kDa

Observed band size: 39 kDa

Exposure time: 3min

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