abcam

ab221789

Anti-MSI2 antibody [EP1305Y] - 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	EP1305Y
Purification technique	Affinity purification Protein A
Epitope	Based on the immunogen sequence for this antibody, it is not predicted to detect the shorter isoforms of MSI2.
Concentration	1.028 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human

Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
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.

Expected

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

Target data

See full target information MSI2

Function	RNA binding protein that regulates the expression of target mRNAs at the translation level. 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
Storage information	Do Not Freeze

Notes

ab221789 is the carrier-free version of ab76148.

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-2 (MSI2) is a member of the Musashi RNA-binding protein family also labeled as MSI-2. The protein is approximately 38 kDa in size. It expresses primarily in stem cells and various tumor types including hematopoietic cells and neural tissue. MSI2 plays a role in maintaining stem cell self-renewal and differentiation by regulating mRNA translation through binding to specific target RNAs.
Biological function summary	MSI2 contributes to the regulation of gene expression with a significant impact on cell fate decisions. It acts as part of a post-transcriptional regulatory complex that controls the stability and translation of specific mRNA targets. MSI2 influences pathways involved in stem cell maintenance and differentiation linking it to

	cellular processes like proliferation and apoptosis. Its activity is important for normal development and the maintenance of undifferentiated cell states.
Pathways	MSI2 has important roles in the Notch and Wnt signaling pathways. These pathways are vital for stem cell maintenance and tissue regeneration. MSI2 regulates components of these pathways interacting with proteins such as beta-catenin in Wnt signaling. This regulation enhances its involvement in controlling cell proliferation and differentiation contributing to signaling processes that determine cellular behavior.
Associated diseases and disorders	MSI2 is linked to acute myeloid leukemia (AML) and certain types of solid tumors. Overexpression of MSI2 often correlates with poor prognosis in AML where it impacts cancer progression by modulating genes associated with cell growth. Additionally its interaction with oncogenic proteins like BCR-ABL suggests its involvement in cancerogenesis through disease-linked pathways. Research indicates MSI2 as a potential target for therapeutic intervention in such malignancies.

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

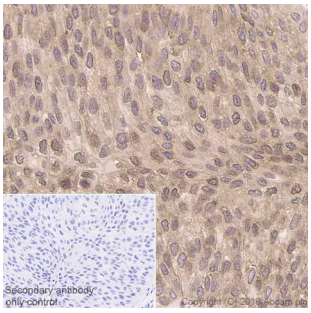
We do not recommend this combination. It is not covered by our product promise.

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.

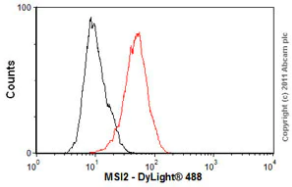
8 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MSI2 antibody [EP1305Y] - BSA and Azide free (ab221789)

MSI2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MSI2 antibody

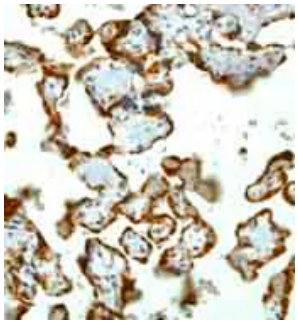
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human bladder carcinoma tissue sections labeling MSI2 with purified ab76148 at 1:500 dilution (2.14 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use)was used as the secondary antibody. Negative control:PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Flow Cytometry (Intracellular) - Anti-MSI2 antibody [EP1305Y] - BSA and Azide free (ab221789)

MSI2 Flow Cytometry (Intracellular) staining using rabbit Anti-MSI2 antibody

Overlay histogram showing HeLa cells stained with ab76148 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab76148, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monclonal) (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive result in HeLa cells fixed with 80% methanol (5 min)/permeabilized in 0.1% PBS-Tween for 20 min used under the same conditions.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76148).

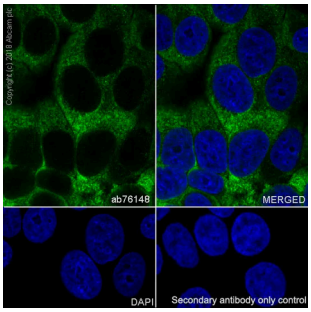


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MSI2 antibody [EP1305Y] - BSA and Azide free (ab221789)

MSI2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MSI2 antibody

Immunohistochemical analysis of paraffin-embedded human placenta with ab76148 at 1/100-1/250 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76148).

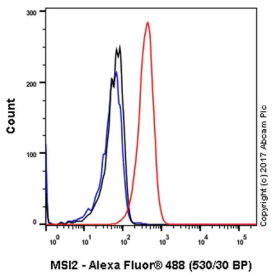
Heat mediated antigen retrieval was performed via the pressure cooker method before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-MSI2 antibody [EP1305Y] - BSA and Azide free (ab221789)

MSI2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MSI2 antibody

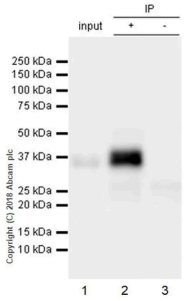
Immunocytochemistry/ Immunofluorescence analysis of MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling MSI2 with purified ab76148 at 1:100 dilution (10 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with None. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-MSI2 antibody [EP1305Y] - BSA and Azide free (ab221789)

MSI2 Flow Cytometry (Intracellular) staining using rabbit Anti-MSI2 antibody

Intracellular Flow Cytometry analysis of T-47D (Human ductal breast epithelial tumor epithelial cell) cells labeling MSI2 with purified ab76148 at 1/100 dilution (10 µg/ml) (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunoprecipitation - Anti-MSI2 antibody [EP1305Y] - BSA and Azide free (ab221789)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76148).
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-MSI2 antibody [EP1305Y] (ab76148) at 1/1000 dilution

Lane 1:
T-47D (Human ductal breast epithelial tumor epithelial cell) whole cell lysate at 10 µg

Lane 2:
T-47D whole cell lysate. ab76148 use as the capture antibody at 1:50 dilution.

Lane 3:
T-47D whole cell lysate. ab172730 use as the capture antibody at 1:50 dilution.

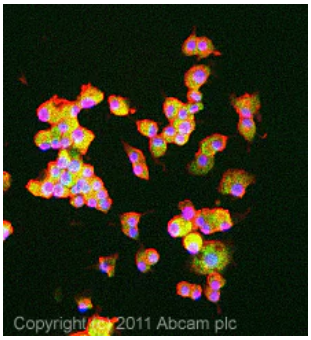
Secondary

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

Predicted band size: 35 kDa

Observed band size: 35 kDa

Exposure time: 5s

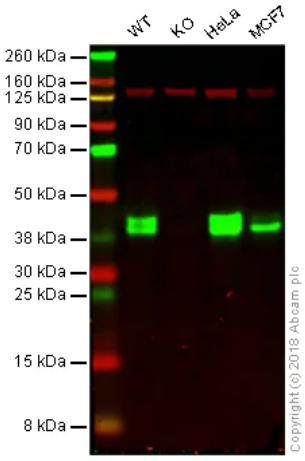


Immunocytochemistry/ Immunofluorescence - Anti-MSI2 antibody [EP1305Y] - BSA and Azide free (ab221789)

MSI2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MSI2 antibody

ICC/IF image of ab76148 stained PC12 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab76148, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76148).



Western blot - Anti-MSI2 antibody [EP1305Y] - BSA and Azide free (ab221789)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76148).
Lanes 1 - 4: Merged signal (red and green). Green - ab76148 observed at 40 kDa. Red - loading control, ab18058, observed at 130 kDa.

ab76148 was shown to specifically react with MSI2 in wild-type HAP1 cells as signal was lost in MSI2 knockout cells. Wild-type and MSI2 knockout samples were subjected to SDS-PAGE. ab76148 and ab18058 (Mouse anti-Vinculin loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-MSI2 antibody [EP1305Y] (ab76148) at 1/1000 dilution

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

Lane 2:
MSI2 knockout HAP1 whole cell lysate at 20 µg

Lane 3:
HeLa whole cell lysate at 20 µg

Lane 4:
MCF7 whole cell lysate at 20 µg

Predicted band size: 35 kDa

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