abcam

ab307198

Anti-mSin3a antibody [EPR27103-53] - BSA and Azide free

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	EPR27103-53
Purification technique	Affinity purification Protein A
Concentration	1.039 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ChIP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Expected

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

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Rat, Mouse, Human
Dilution info	-
Notes	-

WB

Tested

Species	Rat, Mouse, Human
Dilution info	-
Notes	-

Target data

See full target information SIN3A

Function Acts as a transcriptional repressor. Corepressor for REST. Interacts with MXI1 to repress MYC responsive genes and antagonize MYC oncogenic activities. Also interacts with MXD1-MAX heterodimers to repress transcription by tethering SIN3A to DNA. Acts cooperatively with OGT to repress transcription in parallel with histone deacetylation. Involved in the control of the circadian rhythms. Required for the transcriptional repression of circadian target genes, such as PER1, mediated by the large PER complex through histone deacetylation. Cooperates with FOXK1 to regulate cell cycle progression probably by repressing cell cycle inhibitor genes expression (By similarity). Required for cortical neuron differentiation and callosal axon elongation (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

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	MSin3A also known as Sin3A is a transcriptional corepressor that plays an important role in regulating gene expression. It weighs approximately 155 kDa. You can find mSin3A expressed in various tissues throughout the body. This protein does not bind DNA directly but associates with DNA-binding proteins to exert its effects. mSin3A functions mechanically by interacting with histone deacetylases (HDACs) leading to the remodeling of chromatin and repression of gene transcription.

Biological function summary	MSin3A acts to regulate gene silencing and is a component of the mSin3A/HDAC complex. This complex is involved in the control of cell cycle progression differentiation and apoptosis. In cellular processes mSin3A serves as a scaffold binding various proteins to create a platform for gene regulatory functions. Its role in recruiting HDACs to specific genomic locations aids in transcriptional repression affecting many biological processes.
Pathways	MSin3A plays significant roles in the Notch and p53 signaling pathways. These pathways are essential in controlling cell fate decisions and responses to stress. mSin3A partners with HDAC1 and HDAC2 within these pathways facilitating the deacetylation and repression of target genes. In the Notch signaling pathway mSin3A interacts with repressors like CSL while in the p53 pathway it influences p53-dependent transcriptional outcomes by modifying the chromatin state.
Associated diseases and disorders	MSin3A shows connection to cancer and neurodegenerative diseases. In cancer mSin3A affects tumor suppression through its interaction with p53 playing a role in cell cycle arrest and apoptosis. In neurodegenerative diseases mSin3A deregulation may disrupt chromatin architecture impairing neuronal function. By targeting mSin3A and associated proteins like HDAC1 researchers explore potential therapeutic avenues for these diseases.

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

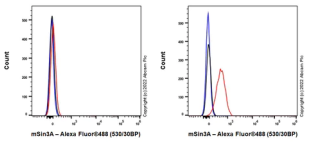
We do not recommend this combination. It is not covered by our product promise.

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.

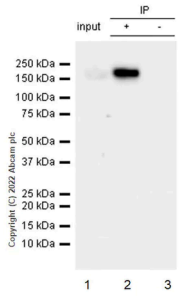
Full details and terms and conditions can be found here:
Terms & Conditions.

7 product images



Flow Cytometry (Intracellular) - Anti-mSin3a antibody [EPR27103-53] - BSA and Azide free (ab307198)

This data was developed using ab307197, the same antibody clone in a different buffer formulation. Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Wild-type HAP1 (human chronic myelogenous leukemia near-haploid cell) (Right panel) compared to mSin3A knockout HAP1 (Left panel) cells labeling mSin3A with ab307197 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled 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.



Immunoprecipitation - Anti-mSin3a antibody [EPR27103-53] - BSA and Azide free (ab307198)

This data was developed using ab307197, the same antibody clone in a different buffer formulation. mSin3A was immunoprecipitated from 0.35 mg HAP1 (human chronic myelogenous leukemia near-haploid cell) whole cell lysate 10 µg with ab307197 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab307197 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: HAP1 whole cell lysate 10 µg Lane 2: ab307197 IP in HAP1 whole cell lysate 10 ug Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab307197 in HAP1 cell lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 6 seconds.
All lanes:
Immunoprecipitation - Anti-mSin3a antibody [EPR27103-53] (ab307197) at 1/1000 dilution

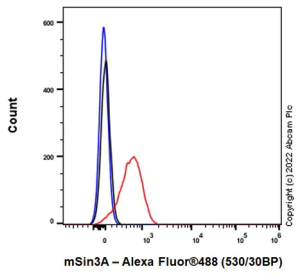
All lanes:
HAP1 whole cell lysate at 10 µg

Secondary

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

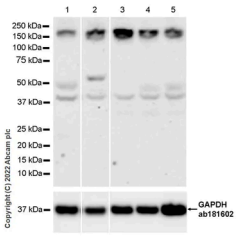
Observed band size: 170 kDa

Exposure time: 6s



Flow Cytometry (Intracellular) - Anti-mSin3a antibody [EPR27103-53] - BSA and Azide free (ab307198)

This data was developed using ab307197, the same antibody clone in a different buffer formulation. Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized F9 (mouse embryonal carcinoma epithelial cell) cells labeling mSin3A with ab307197 at 1/500 dilution (0.1ug) (Red) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled 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.



Western blot - Anti-mSin3a antibody [EPR27103-53] - BSA and Azide free (ab307198)

This data was developed using ab307197, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: 5% NFDM/TBST. The identity of the bands below 75 kDa are unknown. The blot was developed using a higher sensitivity ECL substrate. Exposure time: 180 seconds.
All lanes:
Western blot - Anti-mSin3a antibody [EPR27103-53] (ab307197) at 1/1000 dilution

Lane 1:
Human testis tissue lysate at 20 µg

Lane 2:
Mouse testis tissue lysate at 20 µg

Lane 3:
K-562 whole cell lysate at 20 µg

Lane 4:
293T whole cell lysate at 20 µg

Lane 5:
F9 whole cell lysate at 20 µg

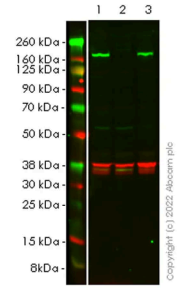
Secondary

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

Developed using the ECL technique.

Observed band size: 170 kDa

Exposure time: 180s



Western blot - Anti-mSin3a antibody [EPR27103-53] - BSA and Azide free (ab307198)

This data was developed using ab307197, 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. The samples were run on a Bis-Tris gel. Performed under reducing conditions. False colour image of Western blot: Anti-mSin3A antibody (ab307197) 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, ab307197 was shown to bind specifically to mSin3A. A band was observed at 170 kDa in wild-type HAP1 cell lysates with no signal observed at this size in mSin3A knockout cell line. To generate this image, wild-type and mSin3A 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-mSin3a antibody [EPR27103-53] (ab307197) at 1/1000 dilution

Lane 1:

Wild-type HAP1 whole cell lysate at 20 µg

Lane 2:
mSin3A knockout HAP1 whole cell lysate at 20 µg

Lane 3:
HeLa whole cell lysate at 20 µg

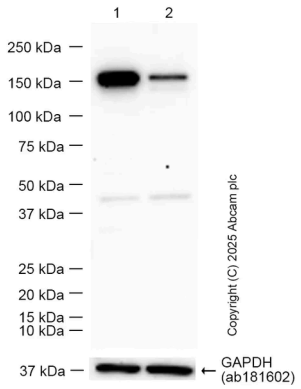
Secondary

Lanes 1 - 3:
Western blot - Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) at 1/20000 dilution

Lanes 1 - 3:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/20000 dilution

Performed under reducing conditions.

Observed band size: 170 kDa



Western blot - Anti-mSin3a antibody [EPR27103-53] - BSA and Azide free (ab307198)

MSin3a Western blot staining using rabbit Anti-mSin3a antibody

This data was developed using ab307197, the same antibody clone in a different buffer formulation.

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

All lanes:
Western blot - Anti-mSin3a antibody [EPR27103-53] (ab307197) at 1/1000 dilution

Lane 1:
K-562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysate at 20 µg

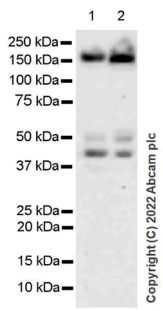
Lane 2:
Human testis tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 170 kDa

Exposure time: 40s



Western blot - Anti-mSin3a antibody [EPR27103-53] - BSA and Azide free (ab307198)

This data was developed using ab307197, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The identity of the bands below 75 kDa are unknown.

This blot was developed using a high sensitivity ECL substrate. The high-sensitivity ECL substrate used allows for the detection of proteins in the mid-femtogram range.

All lanes:
Western blot - Anti-mSin3a antibody [EPR27103-53] (ab307197) at 1/1000 dilution

Lane 1:
C6 whole cell lysate at 20 µg

Lane 2:
RAW264.7 whole cell lysate at 20 µg

Secondary

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

Developed using the ECL technique.

Observed band size: 170 kDa

Exposure time: 180s

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