abcam

ab240144

Anti-MBD3 antibody [EPR9913] - 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	EPR9913
Purification technique	Affinity purification Protein A
Concentration	1.002 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ChIP

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Predicted

Species	Rat, Cow
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Cow
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Human, Rat, Cow
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

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

Predicted

Species	Rat, Cow
Dilution info	-

Notes	-

IP

Expected

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

Target data

See full target information MBD3

Function	Acts as a component of the histone deacetylase NuRD complex which participates in the remodeling of chromatin (PubMed:12124384, PubMed:16428440, PubMed:28977666). Acts as transcriptional repressor and plays a role in gene silencing (PubMed:10947852, PubMed:18644863). Does not bind to methylated DNA by itself (PubMed:12124384, PubMed:16428440). Binds to a lesser degree DNA containing unmethylated CpG dinucleotides (PubMed:24307175). Recruits histone deacetylases and DNA methyltransferases.

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

ab240144 is the carrier-free version of ab157464.

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	The MBD3 protein also known as Methyl-CpG-binding domain protein 3 functions mechanically by binding to methylated DNA which is an essential step in regulating gene expression. It has a molecular mass of approximately 32 kDa. MBD3 is ubiquitously expressed in various tissues demonstrating its role in fundamental cellular processes. The protein does not function alone and often interacts with other proteins as part of gene repression mechanisms.
Biological function summary	The activity of MBD3 impacts chromatin remodeling and gene expression regulation. MBD3 operates as a core component of the nucleosome remodeling deacetylase (NuRD) complex a multi-protein assembly important for transcriptional repression and chromatin structure modification. Its interaction within this complex helps modulate gene expression by altering the accessibility of chromatin and recruiting other modifiers for further regulation.
Pathways	MBD3 plays a significant role in key signaling and epigenetic pathways. It engages in pathways related to chromatin modification and transcription regulation. Its role in the NuRD complex underlines its participation in transcriptional regulation pathways impacting proteins such as HDAC1 and GATA2 which contribute to modifying histone acetylation and influencing gene transcription processes.
Associated diseases and disorders	Changes in MBD3 expression or function have links to cancer and neurodevelopmental disorders. MBD3 dysregulation associates with tumorigenesis due to its role in maintaining proper gene silencing and expression. Additionally impairment in MBD3 function can relate to intellectual disabilities and developmental delays potentially due to its interaction with epigenetic regulators like MeCP2.

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.

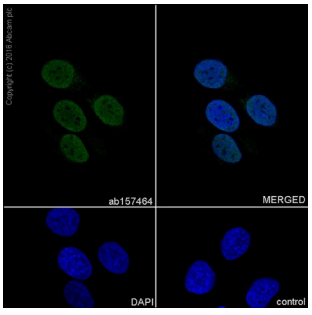
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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5 product images

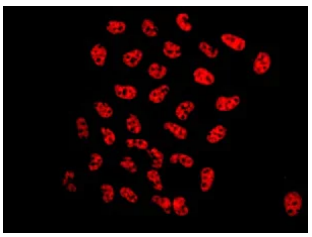


Immunocytochemistry/ Immunofluorescence - Anti-MBD3 antibody [EPR9913] - BSA and Azide free (ab240144)

MBD3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MBD3 antibody

Immunocytochemistry/Immunofluorescence analysis of HeLa (human cervix adenocarcinoma) labelling MBD3 with purified ab157464 at 1/1000. Cells were fixed with 4% PFA and permeabilized with 0.1% Triton X-100. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody (ab150077). Nuclei counterstained with DAPI (blue).
Control: PBS only

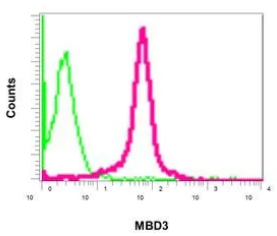
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab157464).



Immunocytochemistry/ Immunofluorescence - Anti-MBD3 antibody [EPR9913] - BSA and Azide free (ab240144)

MBD3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MBD3 antibody

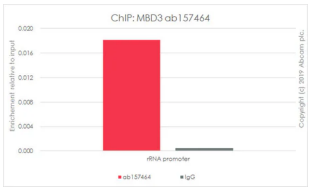
Immunofluorescent analysis of HeLa cells labeling MBD3 with ab157464 at 1/100 dilution.This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab157464).



Flow Cytometry (Intracellular) - Anti-MBD3 antibody [EPR9913] - BSA and Azide free (ab240144)

MBD3 Flow Cytometry (Intracellular) staining using rabbit Anti-MBD3 antibody

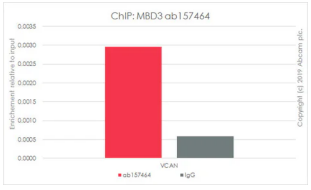
Intracellular flow cytometric analysis of permeabilized 293T cells labeling MBD3 with ab157464 at 1/10 dilution (red) compared to a rabbit IgG negative control (green). This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab157464).



ChIP - Anti-MBD3 antibody [EPR9913] - BSA and Azide free (ab240144)

Chromatin was prepared from HeLa cells according to the Abcam Dual-X-ChIP protocol. Cells were fixed with EGS for 30 minutes, then formaldehyde for 10 minutes.
The ChIP was performed with 25 µg of chromatin, 5 µg of ab157464 (red), and 20 µl of Protein A/G sepharose beads. 5 µg of rabbit normal IgG was added to the beads control (gray). The immunoprecipitated DNA was quantified by real time PCR (Sybr green approach).
Primers and probes are located in the first kb of the transcribed region.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab157464).



ChIP - Anti-MBD3 antibody [EPR9913] - BSA and Azide free (ab240144)

Chromatin was prepared from NIH/3T3 cells according to the Abcam Dual-X-ChIP protocol. Cells were fixed with EGS for 30 minutes, then formaldehyde for 10 minutes.
The ChIP was performed with 25 µg of chromatin, 5 µg of ab157464 (red), and 20 µl of Protein A/G sepharose beads. 5 µg of rabbit normal IgG was added to the beads control (gray). The immunoprecipitated DNA was quantified by real time PCR (Sybr green approach).
Primers and probes are located in the first kb of the transcribed region.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab157464).

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