abcam

ab271091

Anti-PRMT6 antibody [EPR24230-93]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR24230-93
Purification technique	Affinity purification Protein A
Concentration	0.578 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Transfected cell lysate, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Transfected cell lysate, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Transfected cell lysate
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Transfected cell lysate, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat, Transfected cell lysate
Dilution info	-
Notes	-

ChIP

Not recommended

Species	Human, Mouse, Transfected cell lysate, Rat
Dilution info	-
Notes	-

Target data

See full target information PRMT6

Function Arginine methyltransferase that can catalyze the formation of both omega-N monomethylarginine (MMA) and asymmetrical dimethylarginine (aDMA), with a strong preference for the formation of aDMA (PubMed:17898714, PubMed:18077460, PubMed:18079182, PubMed:19405910, PubMed:30420520). Preferentially methylates arginyl residues present in a glycine and arginine-rich

domain and displays preference for monomethylated substrates (PubMed:17898714, PubMed:18077460, PubMed:18079182, PubMed:19405910). Specifically mediates the asymmetric dimethylation of histone H3 'Arg-2' to form H3R2me2a (PubMed:17898714, PubMed:18077460, PubMed:18079182). H3R2me2a represents a specific tag for epigenetic transcriptional repression and is mutually exclusive with methylation on histone H3 'Lys-4' (H3K4me2 and H3K4me3) (PubMed:17898714, PubMed:18077460). Acts as a transcriptional repressor of various genes such as HOXA2, THBS1 and TP53 (PubMed:19509293). Repression of TP53 blocks cellular senescence (By similarity). Also methylates histone H2A and H4 'Arg-3' (H2AR3me and H4R3me, respectively). Acts as a regulator of DNA base excision during DNA repair by mediating the methylation of DNA polymerase beta (POLB), leading to the stimulation of its polymerase activity by enhancing DNA binding and processivity (PubMed:16600869). Methylates HMGA1 (PubMed:16157300, PubMed:16159886). Regulates alternative splicing events. Acts as a transcriptional coactivator of a number of steroid hormone receptors including ESR1, ESR2, PGR and NR3C1. Promotes fasting-induced transcriptional activation of the gluconeogenic program through methylation of the CRTC2 transcription coactivator (By similarity). May play a role in innate immunity against HIV-1 in case of infection by methylating and impairing the function of various HIV-1 proteins such as Tat, Rev and Nucleocapsid protein p7 (NC) (PubMed:17267505). Methylates GPS2, protecting GPS2 from ubiquitination and degradation (By similarity). Methylates SIRT7, inhibiting SIRT7 histone deacetylase activity and promoting mitochondria biogenesis (PubMed:30420520).

Storage

Shipped at conditions	Conditional Ambient
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

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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	PRMT6 or Protein Arginine Methyltransferase 6 is an enzyme that adds methyl groups to arginine residues on target proteins. It is a member of the PRMT family and has a molecular mass of approximately 42 kDa. This enzyme is widely expressed in nucleous where it modifies histones and various nuclear proteins influencing chromatin structure and gene expression.
Biological function summary	PRMT6 plays a pivotal role in regulating transcription by methylating histone H3 at arginine 2 (H3R2) which suppresses gene expression. It forms part of larger chromatin remodeling complexes that modulate access to DNA. PRMT6 also interacts with p53 an important regulator of the cell cycle impacting its transcriptional activity and stability.
Pathways	PRMT6 is central to epigenetic and transcriptional regulation pathways. It functions alongside proteins like p53 and Mdm2 within the DNA damage response pathway where it influences cell proliferation and repair processes. This enzyme further relates to the Akt signaling pathway which affects cell growth and survival although it is not the primary pathway.
Associated diseases and disorders	PRMT6 is implicated in cancer and systemic lupus erythematosus (SLE). In cancer deregulation of PRMT6 can lead to uncontrolled cell growth by affecting genes related to cell cycle and proliferation often interacting with protein p53. In systemic lupus erythematosus altered PRMT6 activity may contribute to abnormal immune responses associating with proteins involved in autoimmunity.

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.

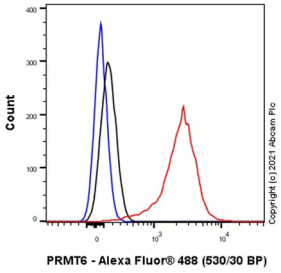
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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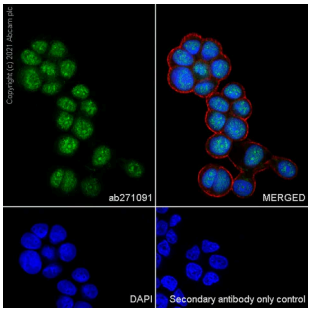
5 product images



Flow Cytometry (Intracellular) - Anti-PRMT6 antibody [EPR24230-93] (ab271091)

PRMT6 Flow Cytometry (Intracellular) staining using rabbit Anti-PRMT6 antibody

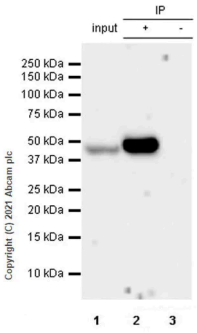
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized MCF7 (Human breast adenocarcinoma epithelial cell) cells labelling PRMT6 with ab271091 at 1/50 dilution (1ug)/ (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells 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.



Immunocytochemistry/ Immunofluorescence - Anti-PRMT6 antibody [EPR24230-93] (ab271091)

PRMT6 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PRMT6 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized MCF7 cells labelling PRMT6 with ab271091 at 1/50 (11.56 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing positive nuclear staining in MCF7 cell line is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) 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 ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Immunoprecipitation - Anti-PRMT6 antibody [EPR24230-93] (ab271091)

PRMT6 was immunoprecipitated from 0.35 mg SH-SY5Y (human neuroblastoma epithelial cell) whole cell lysate with ab271091 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab271091 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.
Lane 1: SH-SY5Y (human neuroblastoma epithelial cell) whole cell lysate 10 ug

Lane 2: ab271091 IP in SH-SY5Y whole cell lysate

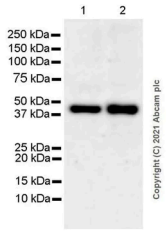
Lane 3:Rabbit monoclonal IgG (ab172730) instead of ab271091 in SH-SY5Y whole cell lysate

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

Exposure time: 41 seconds

All lanes:
Immunoprecipitation - Anti-PRMT6 antibody [EPR24230-93] (ab271091)

Predicted band size: 41 kDa



Western blot - Anti-PRMT6 antibody [EPR24230-93] (ab271091)

PRMT6 Western blot staining using rabbit Anti-PRMT6 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
The observed MW/expression profile is consistent with what has been described in the literature (PMID: 29262320).

All lanes:
Western blot - Anti-PRMT6 antibody [EPR24230-93] (ab271091) at 1/1000 dilution

Lane 1:
Human testis tissue lysate at 20 µg

Lane 2:
Human kidney tissue lysate at 20 µg

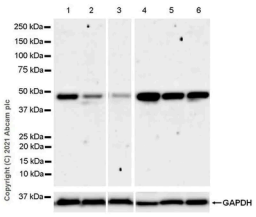
Secondary

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

Predicted band size: 41 kDa

Observed band size: 42 kDa

Exposure time: 3min



Western blot - Anti-PRMT6 antibody [EPR24230-93] (ab271091)

PRMT6 Western blot staining using rabbit Anti-PRMT6 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
The observed MW/expression profile is consistent with what has been described in the literature (PMID: 29262320).

Exposure time: 3 minutes
All lanes:
Western blot - Anti-PRMT6 antibody [EPR24230-93] (ab271091) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) transfected with scrambled siRNA control whole cell lysate at 20 µg

Lane 2:
Hela transfected with PRMT6 siRNA 1 whole cell lysate at 20 µg

Lane 3:
Hela transfected with PRMT6 siRNA 2 whole cell lysate at 20 µg

Lane 4:
MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 5:
SH-SY5Y (human neuroblastoma epithelial cell) whole cell lysate at 20 µg

Lane 6:
LNCaP (human prostate carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution

Predicted band size: 41 kDa

Observed band size: 42 kDa

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