

## Product datasheet

# Anti-Dnmt1 antibody [EPR3521(2)] ab134148

KO VALIDATED Recombinant RabMAb

★★★★★ [1 Abreviews](#) [8 References](#) [10 Images](#)

### Overview

<b>Product name</b>	Anti-Dnmt1 antibody [EPR3521(2)]
<b>Description</b>	Rabbit monoclonal [EPR3521(2)] to Dnmt1
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> ICC/IF, Flow Cyt (Intra), WB, IHC-P
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	Synthetic peptide within Human Dnmt1 aa 500-600. The exact sequence is proprietary. Database link: <a href="#">P26358</a>
<b>Positive control</b>	WB: Jurkat, HEK-293T, HeLa, and HuT-78 cell lysates. IHC-P: Human stomach and tonsil tissues. ICC/IF: Wild-type HAP1 cells. Flow Cyt (intra): HeLa cell lysate
<b>General notes</b>	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"><li>- High batch-to-batch consistency and reproducibility</li><li>- Improved sensitivity and specificity</li><li>- Long-term security of supply</li><li>- Animal-free production</li></ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p> <p>Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.</p>

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 40% Glycerol, 0.05% BSA, PBS
<b>Purity</b>	Protein A purified

<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR3521(2)
<b>Isotype</b>	IgG

## Applications

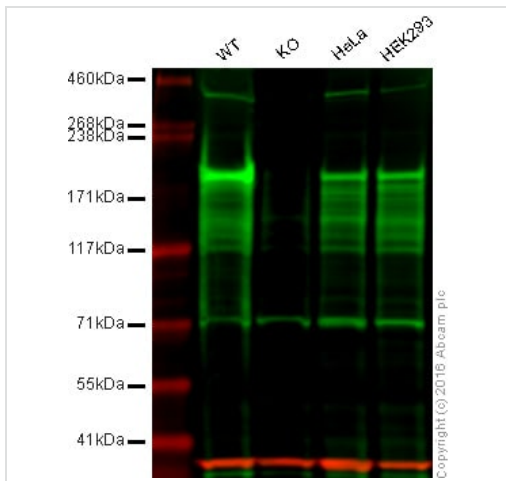
**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab134148 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		1/250.
Flow Cyt (Intra)		1/20. <b>ab172730</b> - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
WB		1/1000 - 1/10000. Predicted molecular weight: 183 kDa.
IHC-P	★★★★★ (1)	1/250 - 1/700. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. See <b><u>IHC antigen retrieval protocols</u></b> .

## Target

<b>Function</b>	Methylates CpG residues. Preferentially methylates hemimethylated DNA. Associates with DNA replication sites in S phase maintaining the methylation pattern in the newly synthesized strand, that is essential for epigenetic inheritance. Associates with chromatin during G2 and M phases to maintain DNA methylation independently of replication. It is responsible for maintaining methylation patterns established in development. DNA methylation is coordinated with methylation of histones. Mediates transcriptional repression by direct binding to HDAC2. In association with DNMT3B and via the recruitment of CTCFL/BORIS, involved in activation of BAG1 gene expression by modulating dimethylation of promoter histone H3 at H3K4 and H3K9.
<b>Tissue specificity</b>	Ubiquitous; highly expressed in fetal tissues, heart, kidney, placenta, peripheral blood mononuclear cells, and expressed at lower levels in spleen, lung, brain, small intestine, colon, liver, and skeletal muscle. Isoform 2 is less expressed than isoform 1.
<b>Sequence similarities</b>	Belongs to the C5-methyltransferase family. Contains 2 BAH domains. Contains 1 CXXC-type zinc finger.
<b>Domain</b>	The N-terminal part is required for homodimerization and acts as a regulatory domain.
<b>Post-translational modifications</b>	Sumoylated; sumoylation increases activity.
<b>Cellular localization</b>	Nucleus.

## Images



Western blot - Anti-Dnmt1 antibody [EPR3521(2)] (ab134148)

**Lane 1:** Wild type HAP1 whole cell lysate (20 µg)

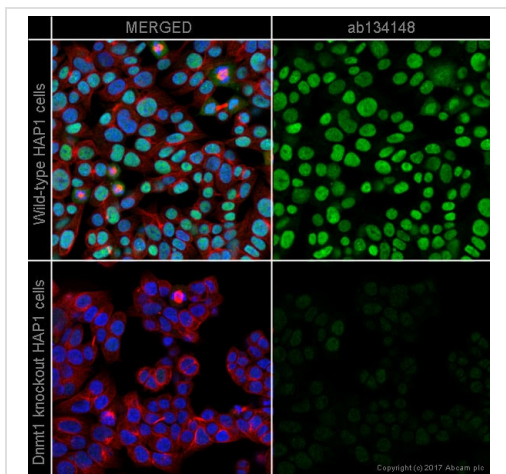
**Lane 2:** DNMT1 knockout HAP1 whole cell lysate (20 µg)

**Lane 3:** HeLa whole cell lysate (20 µg)

**Lane 4:** HEK293 whole cell lysate (20 µg)

**Lanes 1 - 4:** Merged signal (red and green). Green - ab134148 observed at 183 kDa. Red - loading control, **ab8245**, observed at 37 kDa.

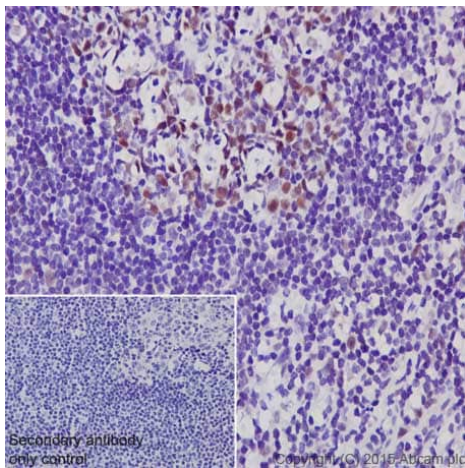
ab134148 was shown to recognize DNMT1 when DNMT1 knockout samples were used, along with additional cross-reactive bands. Wild-type and DNMT1 knockout samples were subjected to SDS-PAGE. ab134148 and **ab8245** (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/10000 dilution respectively. Blots were developed with 800CW Goat anti-Rabbit and 680CW Goat anti-Mouse secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.



Immunocytochemistry/ Immunofluorescence - Anti-Dnmt1 antibody [EPR3521(2)] (ab134148)

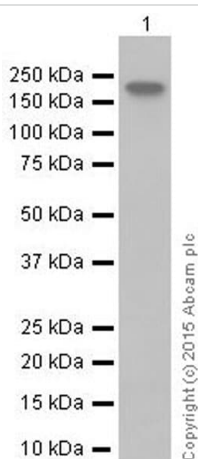
ab134148 staining Dnmt1 in wild-type HAP1 cells (top panel) and DNMT1 knockout HAP1 cells (bottom panel). The cells were fixed with 4% formaldehyde (10min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab134148 at 1/250 dilution and **ab195889** at 1/250 dilution (shown in pseudocolour red) overnight at +4°C, followed by a further incubation at room temperature for 1h with a goat secondary antibody to Rabbit IgG (Alexa Fluor® 488) (**ab150081**) at 2 µg/ml (shown in green). Nuclear DNA was labelled in blue with DAPI.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dnmt1 antibody [EPR3521(2)] (ab134148)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue labelling Dnmt1 with purified ab134148 at 1/700. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. **ab97051**, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Western blot - Anti-Dnmt1 antibody [EPR3521(2)] (ab134148)

Anti-Dnmt1 antibody [EPR3521(2)] (ab134148) at 1/5000 dilution (purified) + Jurkat whole cell lysate at 10 µg

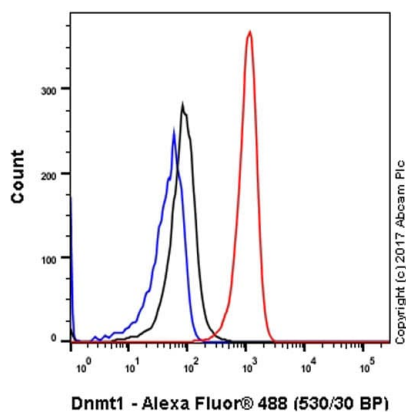
### Secondary

Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution

**Predicted band size:** 183 kDa

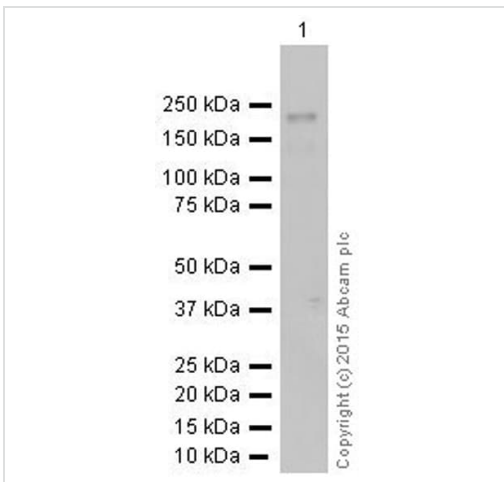
**Observed band size:** 183 kDa

Blocking and dilution buffer: 5% NFDM /TBST.



Flow Cytometry (Intracellular) - Anti-Dnmt1 antibody [EPR3521(2)] (ab134148)

Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling Dnmt1 (red) with unpurified ab134148 at a 1/20 dilution (10µg/mL). Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A goat anti rabbit IgG (Alexa Fluor® 488) (**ab150077**) was used as the secondary antibody at a 1/2000 dilution. Black - Rabbit monoclonal IgG (Black) (**ab172730**). Blue (unlabeled control) - Cell without incubation with primary antibody and secondary antibody (Blue).



Western blot - Anti-Dnmt1 antibody [EPR3521(2)]  
(ab134148)

Anti-Dnmt1 antibody [EPR3521(2)] (ab134148) at 1/5000 dilution  
(purified) + 293T whole cell lysate at 10 µg

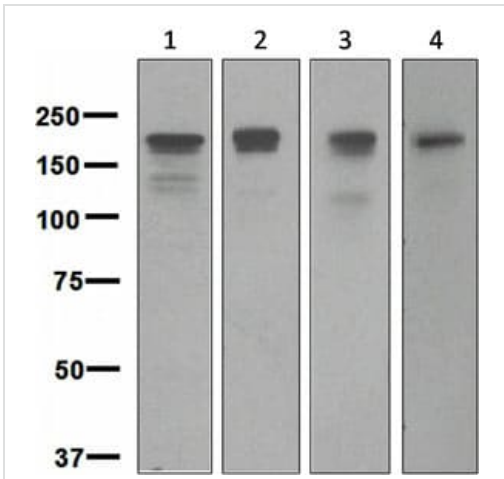
**Secondary**

Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

**Predicted band size:** 183 kDa

**Observed band size:** 183 kDa

Blocking and dilution buffer: 5% NFDM /TBST.



Western blot - Anti-Dnmt1 antibody [EPR3521(2)]  
(ab134148)

**All lanes :** Anti-Dnmt1 antibody [EPR3521(2)] (ab134148) at  
1/1000 dilution (unpurified)

**Lane 1 :** Jurkat cell lysates

**Lane 2 :** 293T cell lysates

**Lane 3 :** HeLa cell lysates

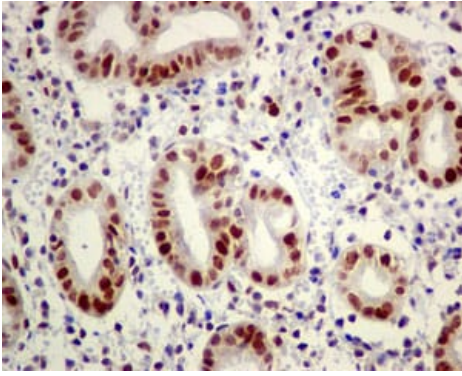
**Lane 4 :** HuT-78 cell lysates

Lysates/proteins at 10 µg per lane.

**Secondary**

**All lanes :** HRP-conjugated goat anti-rabbit IgG at 1/2000 dilution

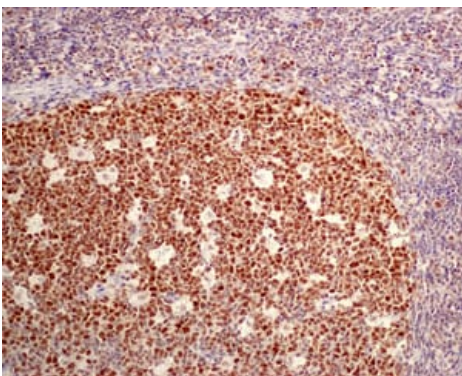
**Predicted band size:** 183 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dnmt1 antibody [EPR3521(2)] (ab134148)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human stomach tissue labelling Dnmt1 with unpurified ab134148 at a dilution of 1/250.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.




Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dnmt1 antibody [EPR3521(2)] (ab134148)


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue labelling Dnmt1 with unpurified ab134148 at a dilution of 1/250.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

### Why choose a recombinant antibody?

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**Research with confidence**  
Consistent and reproducible results
- 

**Long-term and scalable supply**  
Recombinant technology
- 

**Success from the first experiment**  
Confirmed specificity
- 

**Ethical standards compliant**  
Animal-free production

Anti-Dnmt1 antibody [EPR3521(2)] (ab134148)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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