


## Product datasheet

# Anti-Dnmt1 antibody [60B1220.1] ab13537

★★★★☆ 22 Abreviews 132 References 6 Images

### Overview

|                            |   |
|----------------------------|---|
| <b>Product name</b>        | Anti-Dnmt1 antibody [60B1220.1]   |
| <b>Description</b>         | Mouse monoclonal [60B1220.1] to Dnmt1   |
| <b>Host species</b>        | Mouse   |
| <b>Specificity</b>         | This antibody detects a ~180 kDa protein, corresponding to the apparent molecular mass of Dnmt1 on SDS-PAGE immunoblots in samples of human and mouse origin. Immunogen itself has been shown to be toxic.  |
| <b>Tested applications</b> | <b>Suitable for:</b> Flow Cyt, IHC-Fr, WB   |
| <b>Species reactivity</b>  | <b>Reacts with:</b> Mouse, Human, Zebrafish<br><b>Predicted to work with:</b> Cow    |
| <b>Immunogen</b>           | Synthetic peptide:<br>EKDDREDKENAFKR<br>, corresponding to amino acids 637-650 of Human Dnmt1<br><br><a href="#">Run BLAST with</a> <a href="#">Run BLAST with</a>  |
| <b>Positive control</b>    | WB: H1299 cell lysate. Mouse recombinant protein. IHC-Fr: Human colon carcinoma tissue. Mouse medullar kidney tissue. Flow Cyt: HeLa cells.   |
| <b>General notes</b>       | For maximum product recovery, centrifuge the product vial before removing cap. Shipped at on gel packs.<br><br>DNMT1 high levels are toxic, as a result it may be tough to find sometimes. Signal amplification might be needed.<br><br>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.<br><br>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.<br><br>We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.<br><br>In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.<br><br>We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee. |

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.


## 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>       | Preservative: 0.09% Sodium azide<br>Constituents: PBS, 50% Glycerol   |
| <b>Purity</b>               | Protein G purified  |
| <b>Purification notes</b>   | This antibody is affinity purified.   |
| <b>Clonality</b>            | Monoclonal  |
| <b>Clone number</b>         | 60B1220.1   |
| <b>Isotype</b>              | IgG1  |

## Applications

Our [Abpromise guarantee](#) covers the use of **ab13537** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

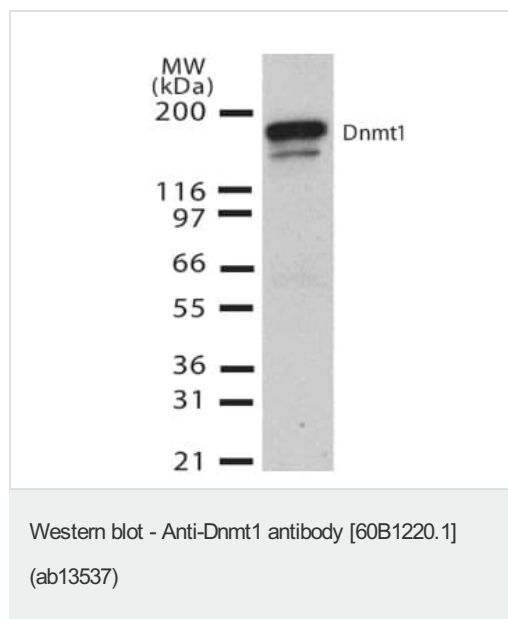
| Application | Abreviews   | Notes   |
|-------------|---|---|
| Flow Cyt    |   | 1/100.<br><a href="#">ab170190</a> - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody. |
| IHC-Fr      |   | Use at an assay dependent concentration.  |
| WB          |  | Use a concentration of 2 - 4 µg/ml. Detects a band of approximately 180 kDa (predicted molecular weight: 183 kDa).        |

## Target

**Function** 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.

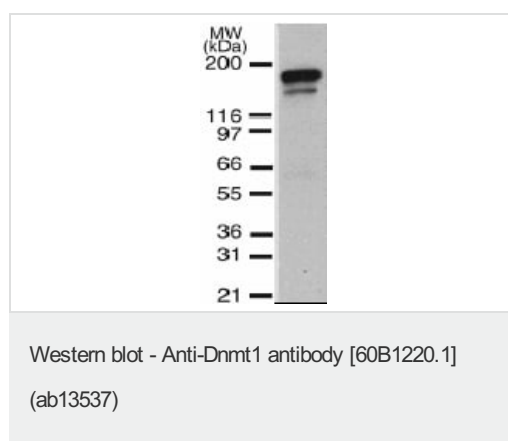
|   |   |
|---|---|
| <b>Tissue specificity</b>               | Ubiquitous; highly expressed in fetal tissues, heart, kidney, placenta, peripheral blood mononuclear cells, and expressed at lower levels in spleen, lung, brain, small intestine, colon, liver, and skeletal muscle. Isoform 2 is less expressed than isoform 1. |
| <b>Sequence similarities</b>            | Belongs to the C5-methyltransferase family.<br>Contains 2 BAH domains.<br>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



Anti-Dnmt1 antibody [60B1220.1] (ab13537) at 1/1000 dilution + H1299 (Human non-small cell lung carcinoma cell line) lysate

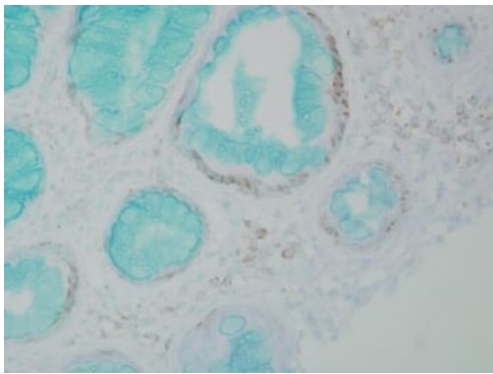
**Predicted band size:** 183 kDa



Anti-Dnmt1 antibody [60B1220.1] (ab13537) at 1/1000 dilution + 0.1ug mouse recombinant protein.

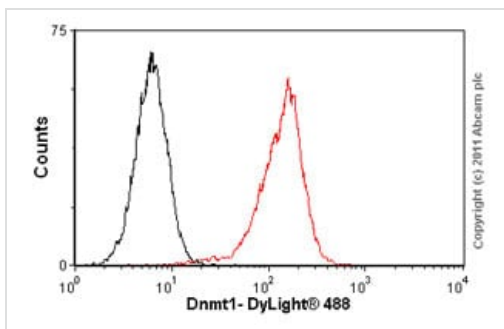
Additional lower band is probably degraded or in other ways modified Dnmt1.

**Predicted band size:** 183 kDa



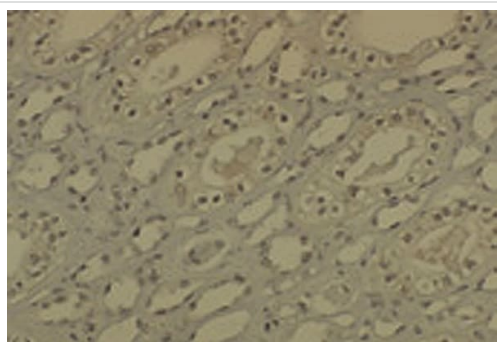
Immunohistochemistry (Frozen sections) - Anti-Dnmt1 antibody [60B1220.1] (ab13537)

ab13537 at 1/10000 dilution (12 hours at 4degC) staining Dnmt1 in human colon carcinoma tissue section by Immunohistochemistry (Formalin-fixed tissue sections). A biotin Goat Anti-Mouse secondary was used at 1/2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200µl for 2 mins at RT.



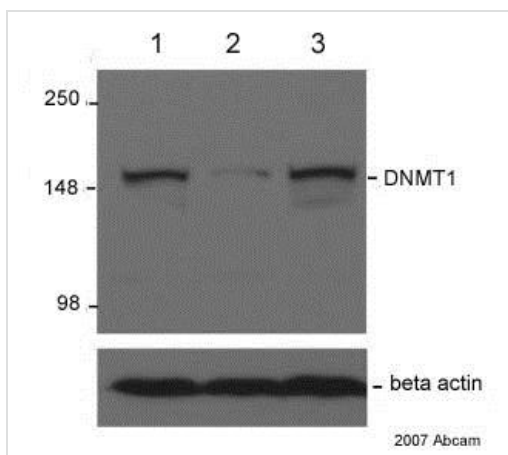
Flow Cytometry - Anti-Dnmt1 antibody [60B1220.1] (ab13537)

Overlay histogram showing HeLa cells stained with ab13537 (red line). The cells were fixed with methanol (5 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 (ab13537, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10<sup>6</sup> cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a slightly decreased signal in HeLa cells fixed with 4% paraformaldehyde (10 min)/permeabilized in 0.1% PBS-Tween used under the same conditions.



Immunohistochemistry (Frozen sections) - Anti-Dnmt1 antibody [60B1220.1] (ab13537)

Mouse medullar kidney tissue stained for Dnmt1 using ab13537 at 1/1000 dilution in immunohistochemical analysis. DAB staining. Counterstained with hematoxylin.



Western blot - Anti-Dnmt1 antibody [60B1220.1] (ab13537)

This image is courtesy of an anonymous Abreview

**All lanes :** Anti-Dnmt1 antibody [60B1220.1] (ab13537) at 1 µg/ml

**Lane 1 :** HCT116 whole cell lysate

**Lane 2 :** HCT116 DNMT1 KO whole cell lysate

**Lane 3 :** HCT116 DNMT3b KO whole cell lysate

**Secondary**

**All lanes :** HRP conjugated Sheep anti-mouse IgG

Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size:** 183 kDa

**Exposure time:** 1 minute

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

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