abcam

Product datasheet

Anti-Dnmt1 antibody [60B1220.1] ab13537

22 Abreviews 195 References 5 Images

Overview

Product name	Anti-Dnmt1 antibody [60B1220.1]
Description	Mouse monoclonal [60B1220.1] to Dnmt1
Host species	Mouse
Specificity	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.
Tested applications	**Suitable for:** IHC-P, Flow Cyt, WB
Species reactivity	**Reacts with:** Mouse, Human **Predicted to work with:** Cow
Immunogen	Synthetic peptide: EKDDREDKENAFKR , corresponding to amino acids 637-650 of Human Dnmt1 Run BLAST with Run BLAST with
Positive control	WB: H1299 cell lysate. IHC-Fr: Human colon carcinoma tissue. Mouse medullar kidney tissue. Flow Cyt: HeLa cells.
General notes	For maximum product recovery, centrifuge the product vial before removing cap. Shipped at on gel packs. DNMT1 high levels are toxic, as a result it may be tough to find sometimes. Signal amplification might be needed. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. 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, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C.

	Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS, 50% Glycerol
Purity	Protein G purified
Purification notes	This antibody is affinity purified.
Clonality	Monoclonal
Clone number	60B1220.1
Isotype	IgG1

Applications

The Abpromise guarantee 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.

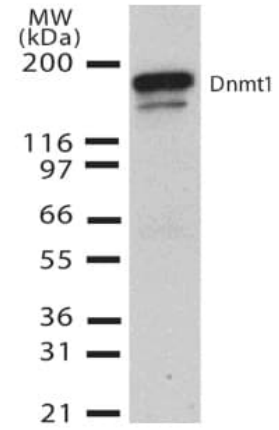
Application	Abreviews	Notes
IHC-P	★★★★★ (2)	Use at an assay dependent concentration.
Flow Cyt		1/100. **ab170190** - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
WB	★★★★☆ (12)	1/1000. Detects a band of approximately 180 kDa (predicted molecular weight: 180 kDa). Block in 1.5% BSA in 1x TBST. Other Band(s): Lower bands are DNMT1 degradation.

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.
Tissue specificity	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.
Sequence similarities	Belongs to the C5-methyltransferase family. Contains 2 BAH domains. Contains 1 CXXC-type zinc finger.
Domain	The N-terminal part is required for homodimerization and acts as a regulatory domain.
Post-translational modifications	Sumoylated; sumoylation increases activity.

Cellular localization Nucleus.

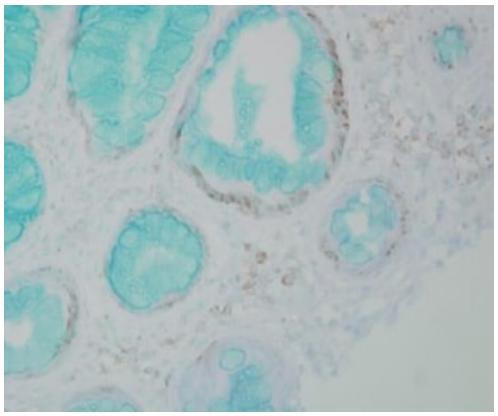
Images



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

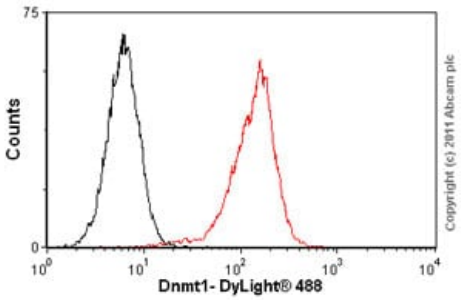
Anti-Dnmt1 antibody [60B1220.1] (ab13537) at 1/1000 dilution + H1299 (Human non-small cell lung carcinoma cell line) lysate

Predicted band size: 180 kDa



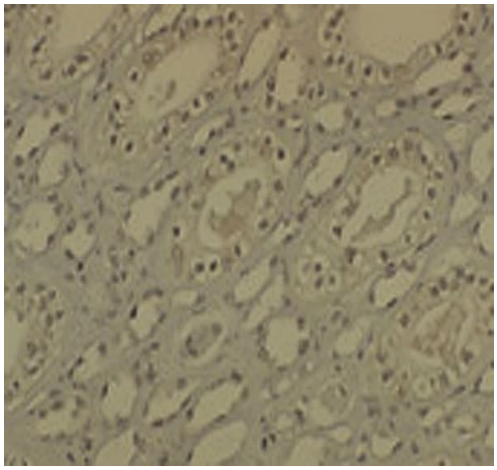
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dnmt1 antibody [60B1220.1] (ab13537)

Immunohistochemistry analysis of formalin-fixed human colon carcinoma tissue labelling Dnmt1 with ab13537 at 1/10000 dilution (12 hours at 4°C), followed by biotin Goat Anti-Mouse antibody at 1/2000 for 1 hour at RT. Counterstain: Hematoxylin (purple/blue) nuclear stain at 200µl for 2 mins at RT.



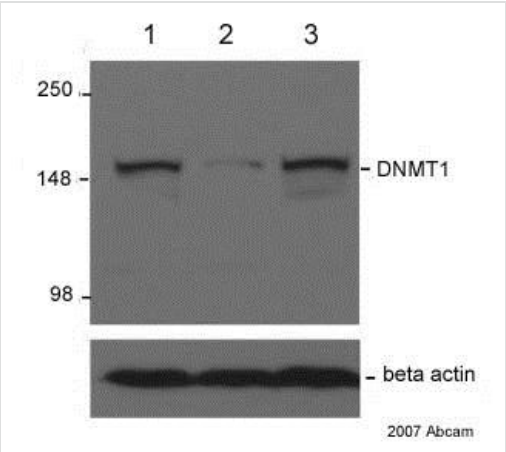
Flow Cytometry - Anti-Dnmt1 antibody [60B1220.1] (ab13537)

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/1x10^6 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 (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dnmt1 antibody [60B1220.1] (ab13537)

Immunohistochemistry analysis of mouse medullar kidney tissue labelling Dnmt1 with ab13537 at 1/10000 dilution, followed by biotin Goat Anti-Mouse antibody (brown). Counterstain: Hematoxylin (purple/blue) nuclear stain.



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: 180 kDa

Exposure time: 1 minute

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