

Product datasheet

Anti-Dnmt1 antibody [60B1220.1] - ChIP Grade ab13537

★★★★☆ 22 Abreviews 81 References 5 Images

Overview

Product name	Anti-Dnmt1 antibody [60B1220.1] - ChIP Grade
Description	Mouse monoclonal [60B1220.1] to Dnmt1 - ChIP Grade
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, IHC-Fr, ChIP, Flow Cyt, WB, IP
Species reactivity	Reacts with: Mouse, Rat, Human, Zebrafish 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	IHC-P: Mouse brain and kidney medullar tissue. Flow cyt: HeLa cells. WB: HCT 116 cells; Dnmt1 recombinant protein. Human kidney (IHC), mouse ES or NIH 3T3 cell lysate (WB)
General notes	For maximum product recovery, centrifuge the product vial before removing cap. Shipped at on gel packs.

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: 0.05% Sodium azide Constituents: PBS, 0.05% BSA
Purity	Protein G purified
Purification notes	This antibody is affinity purified.
Clonality	Monoclonal
Clone number	60B1220.1
Isotype	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
IHC-P	★★★★★	Use a concentration of 1 - 2 µg/ml. DNMT1 high levels are toxic, as a result it may be tough to find sometimes. Signal amplification might be needed.
IHC-Fr		Use at an assay dependent concentration.
ChIP	★★★★★	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	★★★★☆	Use a concentration of 2 - 4 µg/ml. Detects a band of approximately 180 kDa (predicted molecular weight: 183 kDa).
IP	★★★★☆	Use 2µg for 10 ⁶ cells.

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.

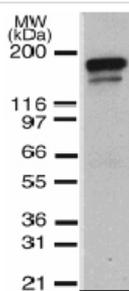
Post-translational modifications

Sumoylated; sumoylation increases activity.

Cellular localization

Nucleus.

Images

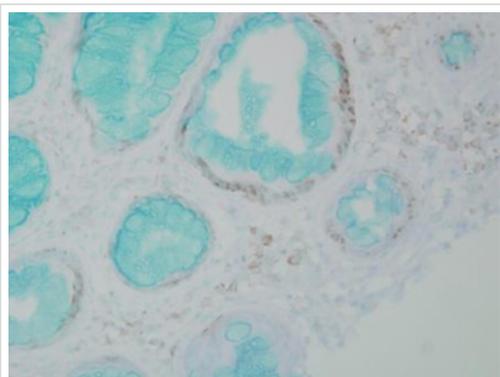


Western blot - Anti-Dnmt1 antibody [60B1220.1] - ChIP Grade (ab13537)

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

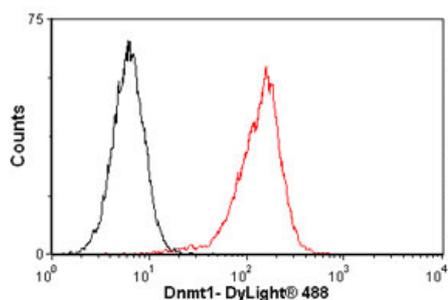
Additional lower band is probably degraded or in other ways modified Dnmt1.

Predicted band size: 183 kDa



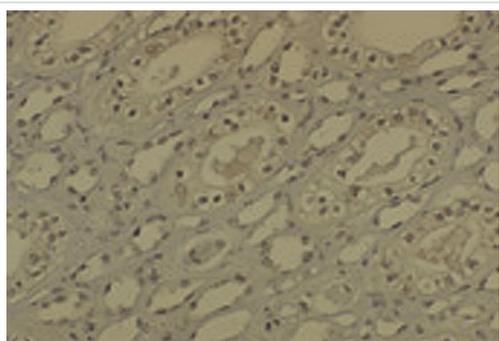
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dnmt1 antibody [60B1220.1] - ChIP Grade (ab13537)

ab13537 at 1/10000 dilution staining Dnmt1 in mouse brain tissue section by Immunohistochemistry (Bouin's fixative fixed paraffin-embedded tissue sections). Tissue underwent heat mediated antigen retrieval in microwave with two, 5 minutes incubation intervals in citrate buffer. An antibody amplifier™ was used for staining. A HRP-conjugated anti-mouse secondary was used at 1/10 dilution.



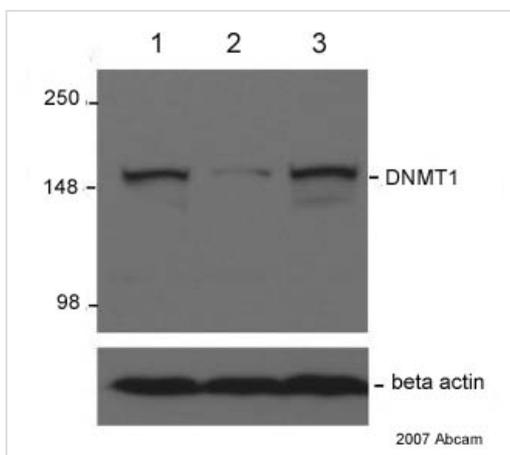
Flow Cytometry - Anti-Dnmt1 antibody [60B1220.1] - ChIP Grade (ab13537)

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/1x10⁶ 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] - ChIP Grade (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] - ChIP Grade (ab13537)
This image is courtesy of an anonymous Abreview

All lanes : Anti-Dnmt1 antibody [60B1220.1] - ChIP Grade (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

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