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Product datasheet for TA336580

DNMT3A Mouse Monoclonal Antibody [Clone ID: 64B1446]

Product data:

Product Type:	Primary Antibodies
Clone Name:	64B1446
Applications:	ChIP, CyTOF-ready, FC, ICC/IF, IHC, WB
Recommended Dilution:	Western Blot, Flow Cytometry: 1 ug per million cells, Immunocytochemistry/ Immunofluorescence: 1:10-1:500, Chromatin Immunoprecipitation (ChIP), Chromatin Immunoprecipitation, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin: 5 ug/ml, Knockdown Validated: Validated for Knockdown from CiteAb, CyTOF-ready
Reactivity:	Human, Mouse
Host:	Mouse
Isotype:	IgG1, kappa
Clonality:	Monoclonal
Immunogen:	This antibody was raised against bacteria expressed recombinant mouse Dnmt3a. The epitope was found to lie near the C-terminus (a.a. 705-908), see Chen et (2002) for details.
Formulation:	PBS containing 0.05% BSA, 0.05% Sodium Azide. Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Concentration:	lot specific
Purification:	Protein G purified
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	DNA (cytosine-5-)-methyltransferase 3 alpha
Database Link:	NP_783328 Entrez Gene 13435 MouseEntrez Gene 1788 Human Q9Y6K1

View online »

Background: Methylation of DNA at cytosine residues plays an important role in regulation of gene expression, genomic imprinting and is essential for mammalian development. Hypermethylation of CpG islands in tumor suppressor genes or hypomethylation of bulk genomic DNA may be linked with development of cancer. To date, 3 families of mammalian DNA methyltransferase genes have been identified which include Dnmt1, Dnmt2 and Dnmt3. Dnmt1 is constitutively expressed in proliferating cells and inactivation of this gene causes global demethylation of genomic DNA and embryonic lethality. Dnmt2 is expressed at low levels in adult tissues and its inactivation does not affect DNA methylation or maintenance of methylation. The Dnmt3 family members, Dnmt3a and Dnmt3b, are strongly expressed in ES cells but their expression is down regulated in differentiating ES cells and is low in adult somatic tissue. Recently, it has been shown that naturally occurring mutations of Dnmt3b gene occurs in patients with a rare autosomal recessive disorder, termed ICF (immunodeficiency, centromeric instability, and facial anomalies) syndrome.

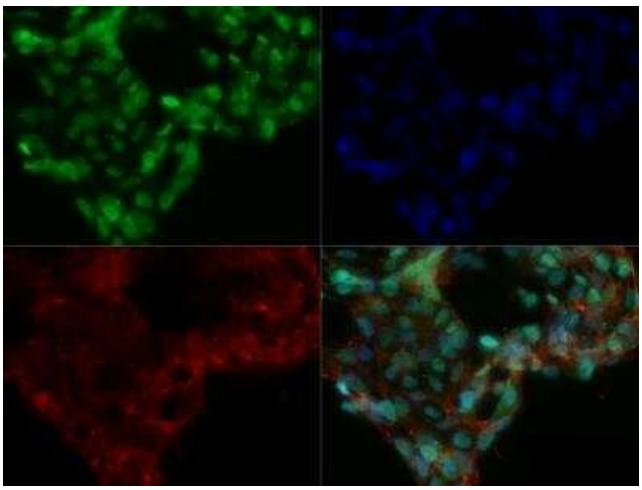
Synonyms: DNMT3A2; M.HsaIIIA; TBRS

Note: Western Blot: Detects a band of approximately 120 kDa (predicted molecular weight: 102 kDa). Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10 mM sodium citrate buffer, pH 6.0 for 10-20 min followed by cooling at RT for 20 min. Use in chromatin immunoprecipitation reported in scientific literature (PMID 24623306)

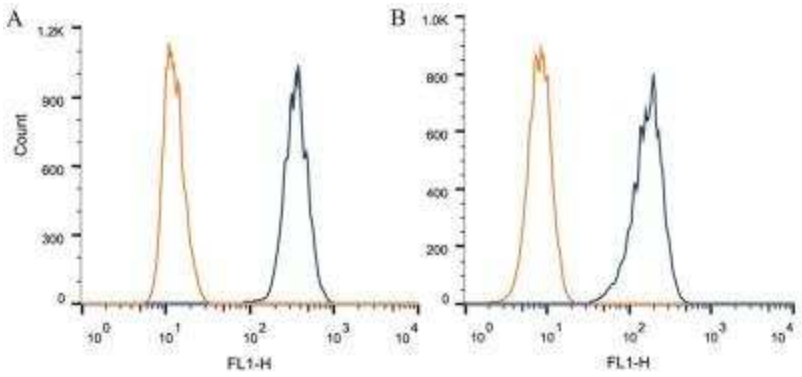
Protein Families: Druggable Genome

Protein Pathways: Cysteine and methionine metabolism, Metabolic pathways

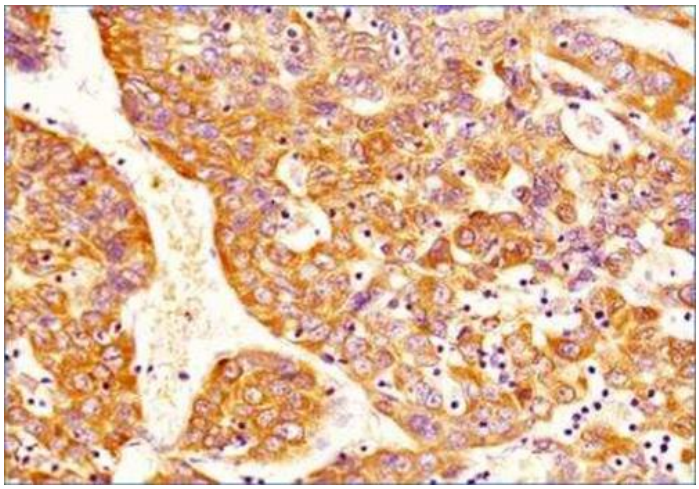
Product images:



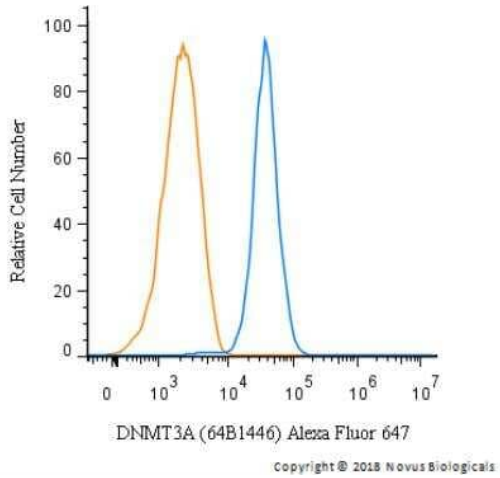
Immunocytochemistry/Immunofluorescence: DNMT3A Antibody (64B1446) TA336580 - Ntera2 cells were fixed for 10 minutes using 10% formalin and then permeabilized for 5 minutes using 1X TBS + 0.5% Triton-X100. The cells were incubated with anti-DNMT3A (68B1446) TA336580 at a 1:200 dilution overnight at 4C and detected with an anti-mouse Dylight 488 (Green) at a 1:500 dilution. Actin was detected with Phalloidin 568 (Red) at a 1:200 dilution. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.



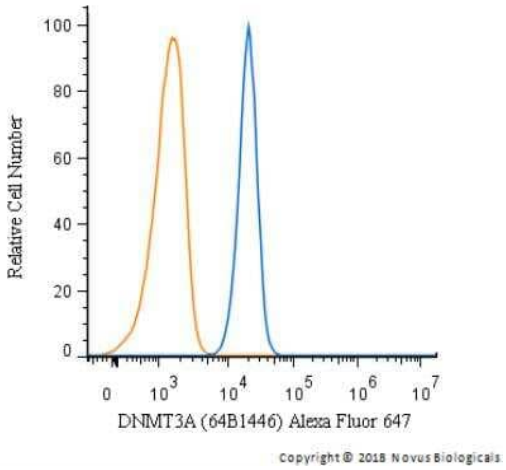
Flow Cytometry: DNMT3A Antibody (64B1446) TA336580 - Intracellular flow cytometric staining of 1 x 10^6 CHO (A) and HEK-293 (B) cells using Dnmt3a antibody (dark blue). Isotype control shown in orange. An antibody concentration of 1 ug/1x10^6 cells was used.



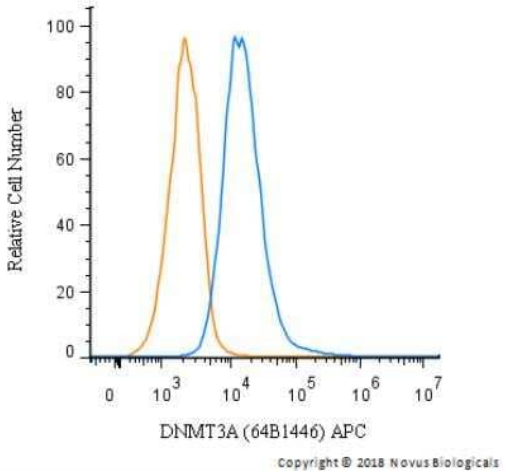
Immunohistochemistry-Paraffin: DNMT3A Antibody (64B1446) TA336580 - Detection of DNMT3A on human hepatocellular carcinoma tissue section (NBP2-30221) using 1:100 dilution of DNMT3A antibody (clone 64B1446). The antibody generated a specific cytoplasmic staining in all the cancer cells while some of the cells depicted nuclear staining also.



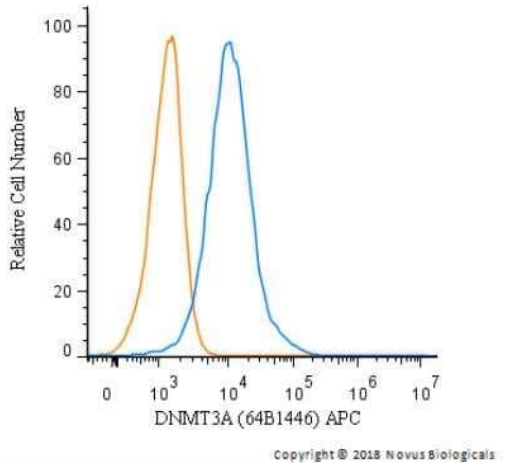
Flow Cytometry: DNMT3A Antibody (64B1446) TA336580 - An intracellular stain was performed on HepG2 cells with DNMT3A (64B1446) TA336580AF647 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeablized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 647.



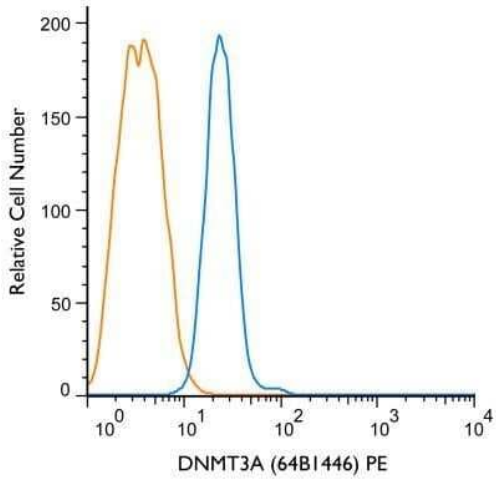
Flow Cytometry: DNMT3A Antibody (64B1446) TA336580 - An intracellular stain was performed on Jurkat cells with DNMT3A (64B1446) TA336580AF647 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeablized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 647.



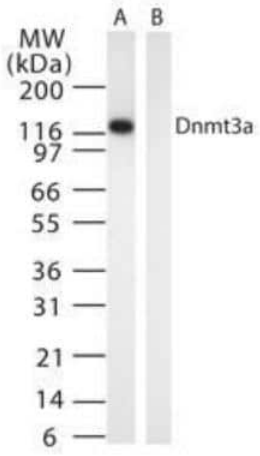
Flow Cytometry: DNMT3A Antibody (64B1446) TA336580 - An intracellular stain was performed on HeLa cells with DNMT3A (64B1446) TA336580APC (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 1 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to allophycocyanin (APC).



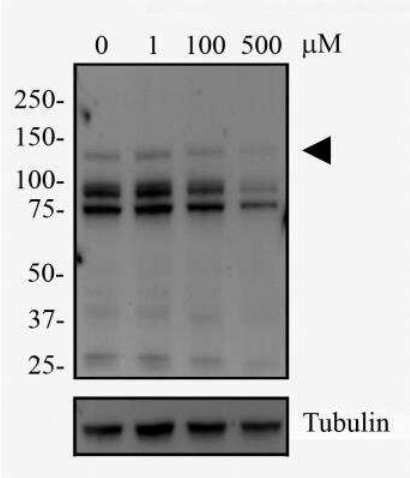
Flow Cytometry: DNMT3A Antibody (64B1446) TA336580 - An intracellular stain was performed on HepG2 cells with DNMT3A (64B1446) TA336580APC (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeablized with 0.1% saponin. Cells were incubated in an antibody dilution of 1 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to allophycocyanin (APC).



Flow Cytometry: DNMT3A Antibody (64B1446) TA336580 - Using the PE direct conjugate, an intracellular stain was performed on NTERA-2 cells with DNMT3A (64B1446) TA336580PE (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeablized with 0.1% saponin. Cells were incubated in an antibody dilution of 1 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to phycoerythrin.



Western Blot: DNMT3A Antibody (64B1446) TA336580 - Analysis of (A) Dnmt3a transfected 293 cell lysate and (B) untransfected 293 cell lysate using Dnmt3a antibody at 1 ug/mL.



Western Blot: DNMT3A Antibody (64B1446) TA336580 - NTERA-2 cells were treated with Zebularine as indicated for 24 hours. Cell lysates were prepared and separated on a 7.5% gel by SDS-PAGE. Protein was transferred to PVDF membrane and blocked in 5% non-fat milk. The membrane was probed with 2 ug/mL anti-Dnmt3a in 1% milk, and detected with an anti-mouse HRP secondary antibody using chemiluminescence. Note the decrease in Dnmt3a expression upon treatment with 500 uM Zebularine (arrowhead). Additional bands at 90 and 75 kDa can also be detected with this antibody and may represent alternative splice variants. Tubulin is shown as a loading control.