

## DNMT3A Antibody

Catalog No: #32580

Orders: [order@signalwayantibody.com](mailto:order@signalwayantibody.com)Support: [tech@signalwayantibody.com](mailto:tech@signalwayantibody.com)

## Description

Product Name	DNMT3A Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Antibodies were purified by affinity purification using immunogen.
Applications	WB IHC IF IP
Species Reactivity	Hu Ms Rt
Specificity	The antibody detects endogenous level of total DNMT3A protein.
Immunogen Type	Recombinant Protein
Immunogen Description	Recombinant protein of human DNMT3A.
Target Name	DNMT3A
Other Names	DNMT3A2; M.HsaIII.A;
Accession No.	Swiss-Prot:Q9Y6K1NCBI Gene ID:1788
SDS-PAGE MW	102KD
Concentration	1.0mg/ml
Formulation	Supplied at 1.0mg/mL in phosphate buffered saline (without Mg <sup>2+</sup> and Ca <sup>2+</sup> ), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Storage	Store at -20°C

## Application Details

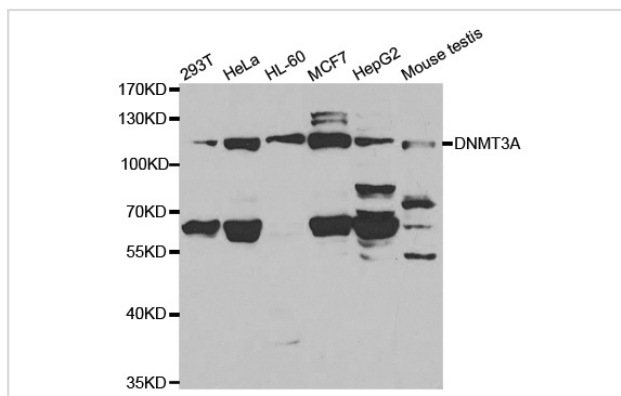
Western blotting: 1:500 - 1:2000

Immunohistochemistry: 1:50 - 1:100

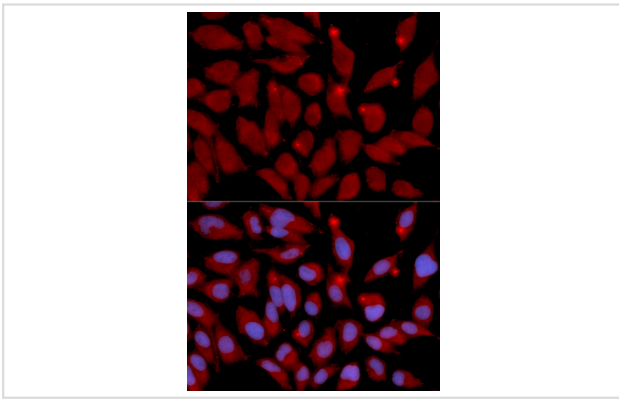
Immunofluorescence: 1:20 - 1:100

Immunoprecipitation: 1:20 - 1:100

## Images



Western blot analysis of extracts of various cell lines, using DNMT3A antibody.



Immunofluorescence analysis of U2OS cell using DNMT3A antibody. Blue: DAPI for nuclear staining.

## Background

Methylation of DNA at cytosine residues in mammalian cells is a heritable, epigenetic modification that is critical for proper regulation of gene expression, genomic imprinting and development (1,2). Three families of mammalian DNA methyltransferases have been identified: DNMT1, DNMT2 and DNMT3 (1,2). DNMT1 is constitutively expressed in proliferating cells and functions as a maintenance methyltransferase, transferring proper methylation patterns to newly synthesized DNA during replication. DNMT3A and DNMT3B are strongly expressed in embryonic stem cells with reduced expression in adult somatic tissues. DNMT3A and DNMT3B function as de novo methyltransferases that methylate previously unmethylated regions of DNA. DNMT2 is expressed at low levels in adult somatic tissues and its inactivation affects neither de novo nor maintenance DNA methylation. DNMT1, DNMT3A and DNMT3B together form a protein complex that interacts with histone deacetylases (HDAC1, HDAC2, Sin3A), transcriptional repressor proteins (RB, TAZ-1) and heterochromatin proteins (HP1, SUV39H1), to maintain proper levels of DNA methylation and facilitate gene silencing (3-8). Improper DNA methylation contributes to diseased states such as cancer (1,2). Hypermethylation of promoter CpG islands within tumor suppressor genes correlates with gene silencing and the development of cancer. In addition, hypomethylation of bulk genomic DNA correlates with and may contribute to the onset of cancer. DNMT1, DNMT3A and DNMT3B are over-expressed in many cancers, including acute and chronic myelogenous leukemias, in addition to colon, breast and stomach carcinomas (9-12).

Note: This product is for in vitro research use only and is not intended for use in humans or animals.