

Product datasheet for **TA327251**

DNMT3A Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IP, WB
Recommended Dilution:	WB 1:500 - 1:2000;IP 1:20- 1:100
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Recombinant protein of human DNMT3A
Formulation:	Store at -20C or -80C. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3
Concentration:	lot specific
Purification:	Affinity purification
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_072046 Entrez Gene 13435 Mouse Entrez Gene 444984 Rat Entrez Gene 1788 Human Q9Y6K1



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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. Three families of mammalian DNA methyltransferases have been identified: DNMT1, DNMT2 and DNMT3. 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. Improper DNA methylation contributes to diseased states such as cancer. 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.

Synonyms:

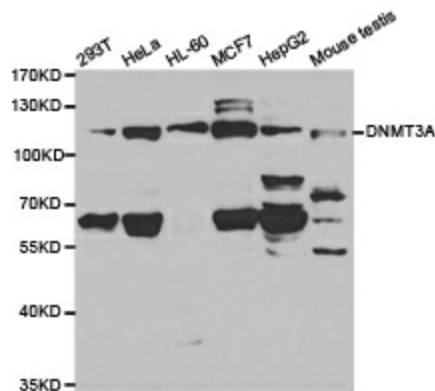
DNMT3A2; M.HsaIIIA; TBRS

Protein Families:

Druggable Genome

Protein Pathways:

Cysteine and methionine metabolism, Metabolic pathways

Product images:

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