



Product Specification Sheet

DNA 5-cytosine methyltransferase 3b (Dnmt3b) Antibodies

Cat. # DNMT3B11-A

Rabbit Anti-human DNMT3b IgG, aff pure

SIZE: 500 ul

Methylation at the 5'-position of cytosine is the only known naturally occurring covalent modification of the mammalian genome. DNA methylation requires the enzymatic activity of DNA 5-cytosine methyltransferase (Dnmt) proteins, which catalyze the transfer of a methyl group from S-adenosyl methionine to the 5'-position of cytosines residing in the dinucleotide CpG motif, and this methylation results in transcriptional repression of the target gene. The Dnmt enzymes are encoded by independent genes. Dnmt1 is the most abundant, and it preferentially methylates hemimethylated DNA and coordinates gene expression during development. Additional mammalian Dnmt proteins include Dnmt2 and Dnmt3. Dnmt2 lacks the large N-terminal regulator domain of Dnmt1, is expressed at substantially lower levels in adult tissues, and is likely involved in methylating newly integrated retroviral DNA. Dnmt3a and Dnmt3b are encoded by two distinct genes, but both are abundantly expressed in embryonic stem cells, where they also methylate CpG motifs on DNA.

Protein names Recommended name:
DNA (cytosine-5)-methyltransferase 3B, Short name=Dnmt3b, EC=2.1.1.37
Alternative name(s): DNA methyltransferase HsaIIIB, Short name=DNA MTase HsaIIIB, Subcellular location Nucleus Probable.

Tissue specificity Ubiquitous; highly expressed in fetal liver, heart, kidney, placenta, and at lower levels in spleen, colon, brain, liver, small intestine, lung, peripheral blood mononuclear cells, and skeletal muscle. Isoform 1 is expressed in all tissues except brain, skeletal muscle and PBMC, 3 is ubiquitous, 4 is expressed in all tissues except brain, skeletal muscle, lung and prostate and 5 is detectable only in testis and at very low level in brain and prostate..

Human Dnmt3b has at least 6 isoforms: isoforms 1 (853 aa), 2 (missing 356-375 aa), 3 (Missing 356-375: 745-807); 4 (missing 356-375, 744-744 R-S and 745-853 missing); 5 (missing 356-375; 768 to 853 changes) and 6 (1-1 change and 356-375 missing).

Source of Antigen and Antibodies

Antigen	Recombinant human DnmT1 protein ~epitope 120--300 aa of human DNMT1 (protein accession #Q9UBC3; 853 aa
Antibody host/type	Rabbit, polyclonal affinity purified IgG, Cat # DNMT21-A
Secondary Ab	Goat Anti-rabbit IgG-HRP cat # SA-20320 (AP, biotin, FITC conjugates also available)
Negative Control Ab	# SA-20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage

Aff Pure (purified)

100 ug/500vial solution, PBS pH 7.5, 0.1% gelatin, 0.05% azide lyophilized powder

Reconstitute powder in 500 ul water to prepare 200 ug/ml stock.

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting 1-5 ug/ml using ECL. mol wt ~100 kda using.

ELISA 0.1-1 ug/ml as detecting antibody.

Histochemistry: We recommend the use of 2-10 ug/ml of antibody in paraformaldehyde-fixed, paraffin embedded sections.

Specificity & Cross-reactivity

Anti-human Dnmt2 reacts with mouse, rat, and human Dnmt2 proteins. Antibody crossreactivity in various species is not established. No reactivity is observed with Dnmt1 or Dnmt3 proteins.

General References: Okano M (1998) Nucl Acid Res. 28, 2536-2540; Yoder JA (J. Mol. Biol. 270, 385-395; Xie S 1999) Gene 236, 87-95; Xu GL (1999) Nature 402, 187-191; Sun L (2008) Cancer Res. 68, 2726-2735

*This product is for In vitro research use only.

Related material available from GSI

Anti-Dnmt1, 2, 3a, and 3b antibodies

DNMT3B11-A

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