



Product Specification Sheet

**DNA 5-cytosine methyltransferase 2 (Dnmt2) Antibodies**

Cat. # DNMT21-A

Rabbit Anti-human DNMT2 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:

tRNA (cytosine-5-)-methyltransferase, EC=2.1.1.29

Alternative name(s): DNA (cytosine-5)-methyltransferase-like protein 2, Short name=Dnmt2, DNA methyltransferase homolog HsaIIP, Short name=DNA MTase homolog HsaIIP, Short name=M.HsaIIP  
Subcellular location Nucleus

Subcellular location Nucleus Probable.

Tissue specificity Ubiquitous. Higher expression in testis, ovary and thymus and at much lower levels in spleen, prostate, colon, small intestine, and peripheral blood leukocytes.

Human Dnmt2 has at least 6 isoforms: A (391 aa), B (367 aa), C (345), D (63 aa), E (71 aa), and F (107 aa)

**Source of Antigen and Antibodies**

<b>Antigen</b>	Recombinant human DnmT1 protein ~epitope 120--300 aa of human DNMT1 (protein accession #O14717;
<b>Antibody host/type</b>	Rabbit, polyclonal affinity purified IgG, Cat # DNMT21-A
<b>Secondary Ab</b>	Goat Anti-rabbit IgG-HRP cat # SA-20320 (AP, biotin, FITC conjugates also available)
<b>Negative Control Ab</b>	# 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 ~45 kda using human placenta tissues.

**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. 26, 2536-2540; Hsiesh CL (1999) Mol. Cel.. Biol. 19, 8211-8218; Bigbey P (2000) Gene 242, 407-418

\*This product is for In vitro research use only.

**Related material available from GSI**

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