



Product Specification Sheet

DNA 5-cytosine methyltransferase 1 (Dnmt1) Antibodies

Cat. # DNMT11-A

Rabbit Anti-human DNMT1 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 1, Short name=Dnmt1, EC=2.1.1.37, MGMT, DNA methyltransferase Hsa1, short name=DNA MTase Hsa1, .Hsa1, CXXC-type zinc finger protein 9

Gene names Name: DNMT1 ; Synonyms: AIM, CXXC9, DNMT

Subcellular location Nucleus

Tissue specificity Ubiquitous; highly expressed in fetal tissues, heart, kidney, placenta, peripheral blood mononuclear cells, and expressed at lower levels in spleen, lung, brain, small intestine, colon, liver, and skeletal muscle. Isoform 2 is less expressed than isoform 1. Ref.12

Induction Its abundance is reduced to non detectable levels at the G0 phase of the cell cycle and is dramatically induced upon entrance into the S-phase of the cell cycle.

Source of Antigen and Antibodies

Antigen	Recombinant human DnmT1 protein ~300 aa of human DNMT1, 1300-160aa (protein accession #P26358; 1616 aa)
Antibody host/type	Rabbit, polyclonal affinity purified IgG, Cat # DNMT11-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 170-190 kda using HeLa Cell lysates.

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 Dnmt1 reacts with mouse, rat, and human DNMT1 proteins. Antibody crossreactivity in various species is not established. no reactivities is observed with Dnmt2 or Dnmt3 proteins.

General References: Mosrtsewicz O (2005) PNAS 102, 8905-8909; Morey SR (2006) Cancer Res. 66, 11659-11667; Sahrif J (2007) Nature 450, 908-912;

*This product is for In vitro research use only.

Related material available from GSI

Ant-NGF, NT-3, NT-4, BDNF, Trk receptors, EGF, FGF and other growth factors