

Anti-Dnmt1 (1-248) antibody, affinity-purified (rabbit polyclonal)

70-201

50 µg

Dnmt1 (DNA (cytosine-5-)-methyltransferase 1) has a role in the establishment and regulation of tissue-specific patterns of methylated cytosine residues (epigenetics). Hypermethylation in promoter regions are associated with repression of the genes. Aberrant methylation patterns are associated with certain human tumors and developmental abnormalities. This antibody was raised by Prof. S. Tajima of Osaka Univ. and used in Ref.3.

Applications

Western Blot: (0.2~1 µg /ml)

Immunoprecipitation: Especially good for native form of Dnmt1 and useful for analysis of the protein complex containing Dnmt1. One µg of the antibody can precipitates 0.5~1.0 ug of Dnmt1.

Indirect immunofluorescence staining: Excellent. Low background image will be obtained by using the antibody at 5,000 fold dilution.

Other applications have not been tested (data for Western blot and immunofluorescence staining obtained by using this antibody are shown on the next page)

Specification

Antigen: Highly purified recombinant mouse Dnmt1 (amino acids 1-248), soluble form

Antibody: Affinity-purified with the recombinant Dnmt1

Reactivity: Mouse and human. Not tested for other species.

Form: 1 mg/ml in PBS, 50% glycerol, 0.05% sodium azide (and trace of ammonium sulfate)

Storage: -20°C or long term storage -80°C

Data Link

UniProtKB/Swiss-Prot [P13864](#) (DNMT1_MOUSE)

References: This antibody was used for Western blotting and immunofluorescence staining in Ref. 3.

1. Di Croce L *et al* "Methyltransferase recruitment and DNA hypermethylation of target promoters by an oncogenic transcription factor". *Science* 295: 1079-1082 (2002) PMID: [11834837](#)
2. Rhee I *et al* "DNMT1 and DNMT3b cooperate to silence genes in human cancer cells" *Nature* 416: 552-556 (2002) PMID: [11932749](#)
3. Sharif J *et al* "The SRA protein Np95 mediates epigenetic inheritance by recruiting Dnmt1 to methylated DNA" *Nature* 450:908-912 (2007) PMID: [17994007](#)

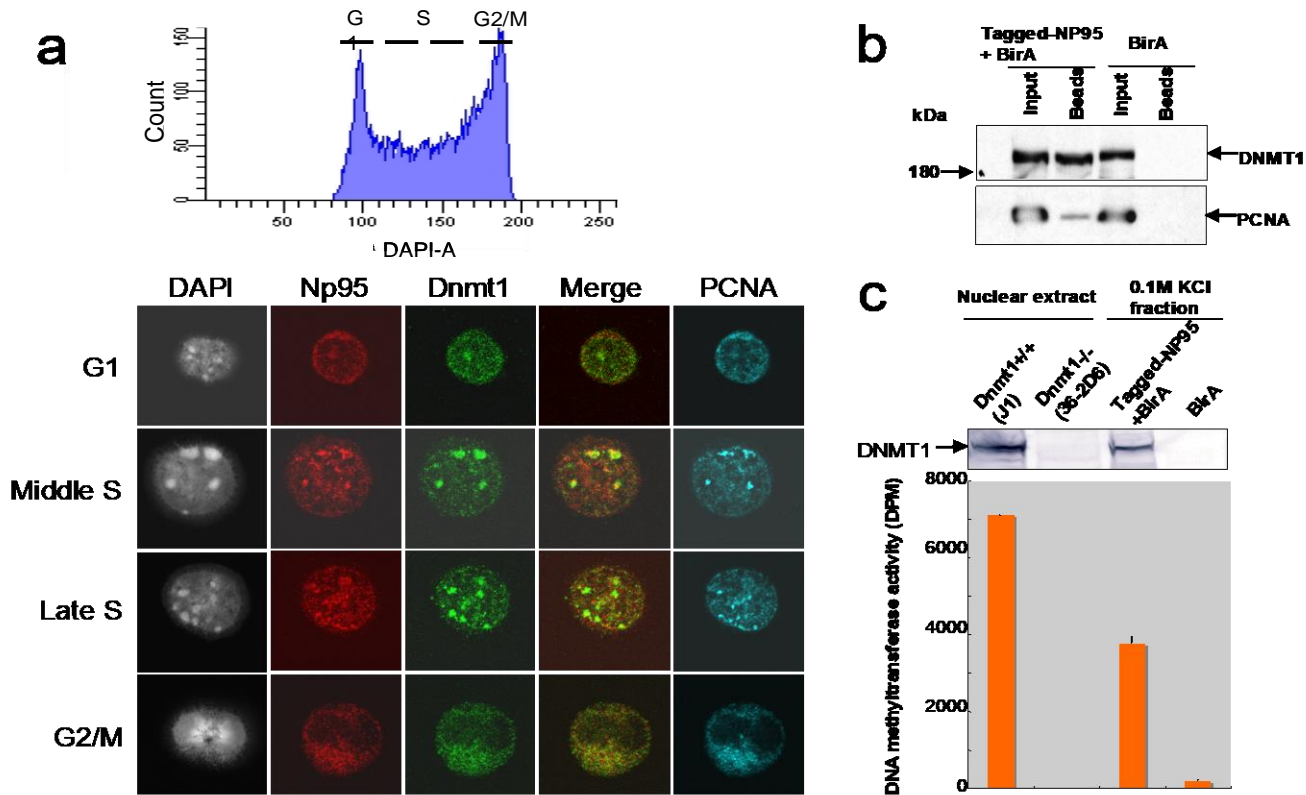


Figure above: Use of anti-Dnmt1 (1-248) antibody for Western blotting and immunofluorescence staining

Figure a: Subnuclear localization of Dnmt1 (green), Np95 (red) and PcnA (blue) in mouse embryonic stem cells (E14) during cell-cycle progression (bottom). Merged images for Np95 and Dnmt1 are shown. Profile of DNA content in exponentially growing ECSs is shown (top).

Figure b: Association of Np95 with Dnmt1 and PcnA in HeLa cell nuclear extracts. Human NP95 was tagged by biotin-binding domain and stably expressed in HeLa cells together with the *E. coli* BirA biotin ligase gene. Biotinylated Np95 was captured by streptavidin beads. The captured proteins were eluted from the beads and analyzed by Western blot using antibodies against Dnmt1 and PcnA.

Figure c: Catalytic activity of NP95 associated Dnmt1 in HeLa cells. The presence of Dnmt1 in the NP95 complexes was confirmed by Western blot and the DNA methyltransferase activity of the extracts was measured. The data was kindly provided by Dr. M Muto of Riken Research Center for Allergy and Immunology.