

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

70-201      50 ug

**Shipping and Storage temperatures:** Ship at 4°C or -20°C and store at -20°C. Do not freeze,

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

**Validated** by western blot with Dnmt1 KO cells and recombinant GST-Dnmt1 (1-248) protein.

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

**Applications**

- 1) Western blotting (0.2~1 ug/ml)
- 2) Immunoprecipitation. Especially good for native form of Dnmt1 and useful for analysis of the protein complex containing Dnmt1. One ug of the antibody can precipitates 0.5~1.0 ug of Dnmt1.
- 3) Indirect immuno-fluorescence staining. Excellent. Low background image will be obtained by using the antibody at 5,000 fold dilution.
- 4) Chromatin Immuno-Precipitation (Assay dependent)

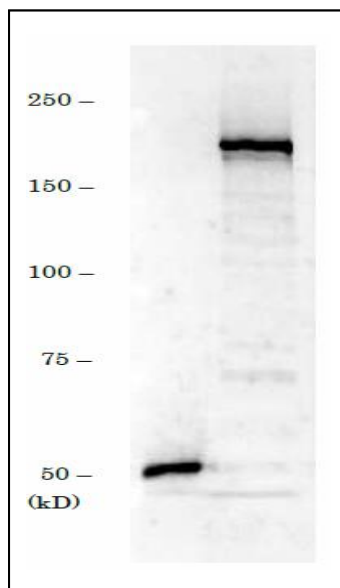
**Purity:** Affinity-purified with the recombinant Dnmt1,

**Form:** 1 mg/ml in PBS, 50% glycerol.

**Background:**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.

**Data Link:** UniProtKB/Swiss-Prot [P13864](#) (DNMT1\_MOUSE)

1      2



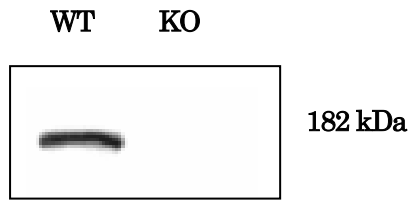
**Fig.1 Western blot of endogenous Dnmt1 in crude extract of NIH3T3 cells.**

Samples.

1. Immunogen, GST-Dnmt3 (1-248) fusion protein

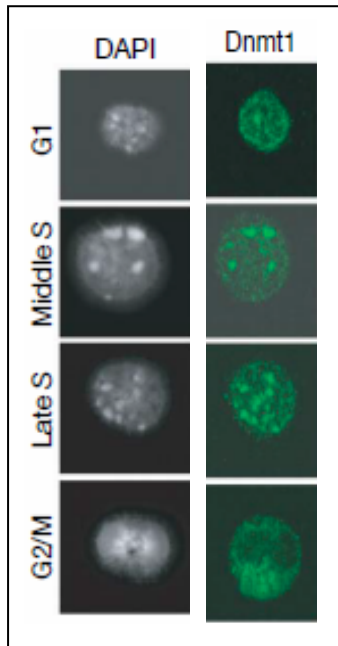
2. Whole cell extract of NIH3T3 cells (20  $\mu$ g)

The anti-Dnmt1 antibody was used at 1  $\mu$ g/ml and 2<sup>nd</sup> antibody, goat anti-rabbit IgG antibody conjugated with HRP was used at 1/10,000 dilution.



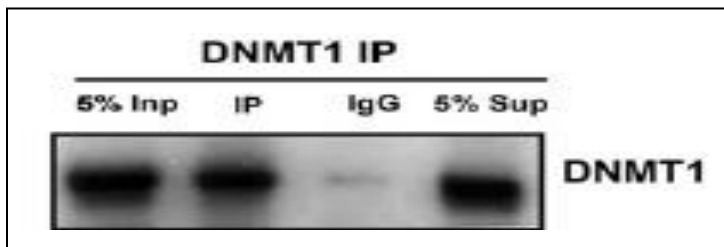
**Fig.2 Validation of the anti-Dnmt1 antibody by western blot, using Dnmt1 KO cell extract.**

**Lane 1:** Mouse ES cell line J1 (Dnmt1 +/+)  
**Lane 2:** Mouse ES cell line 36 (Dnmt1 -/-)



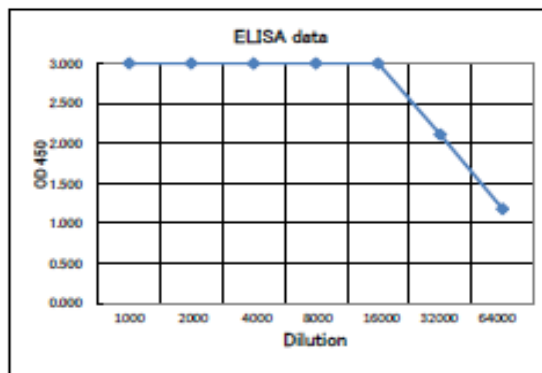
**Fig.3 Immunofluorescence staining of Dnmt1 during cell cycle progression.**

Embryonic stem cells (E14) during cell-cycle progression were reacted with anti-Dnmt1 antibody as primary antibody at 1/5,000 and with goat anti-rabbit IgG conjugated with Alexa Fluora 555 at 1/2,000. Nuclei were stained with DAPI.



**Fig.4 Immunoprecipitation of Dnmt1 from mouse MEL cells.**

The anti-Dnmt1 antibody attached to protein A conjugated magnetic beads was used. Non-immunized IgG was used as negative control.



**Fig.5. Titration of antibody reactivity of anti-Pertussis antiserum by direct ELISA**

Plate was coated with 100 ng of GST-Dnmt1 (1-248) per well and 100  $\mu$ l of the antiserum at the indicated dilution was added to each well and incubated. After washing, goat anti-rabbit-IgG conjugated with HRP was added as 2nd antibody. Color was developed with TMB as substrate.

**References:** This antibody has been used in the following publications.

1. Negishi M *et al.* "Bmi1 cooperates with Dnmt1-associated protein 1 in gene silencing." [Biochem Biophys Res Commun](#). 2007 Feb 23;353(4):992-8. PMID:17214966. **WB (mouse)**
2. Sharif J *et al.* "The SRA protein Np95 mediates epigenetic inheritance by recruiting Dnmt1 to methylated DNA" *Nature* **450**:908-912 (2007) PMID: [17994007](#). **WB, IP, IF (mouse, human)**
3. Papageorgiou DN *et al.* "Distinct and overlapping DNMT1 interactions with multiple transcription factors in erythroid cells: Evidence for co-repressor functions." [Biochim Biophys Acta](#). 1859 (12):1515-1526 (2016). PMID: [27693117](#). **WB, IP, ChIP (human, mouse)**
4. Maenohara S *et al.* "Role of UHRF1 in de novo DNA methylation in oocytes and maintenance methylation in preimplantation embryos." [PLoS Genet](#). 2017 Oct 4;13(10):e1007042 PMID: [28976982](#). **IF (mouse)**

**Related products:** [#70-205](#) Anti-Dnmt3b antibody, affinity-purified (rabbit polyclonal)