

Anti-Dnmt3b antibody, affinity-purified (rabbit polyclonal), CHIP grade

70-205 20 ug, 70-206 100 ug

Dnmt3b (DNA (cytosine-5)-methyltransferase 3b) has a role in the establishment and regulation of tissue-specific patterns of methylated cytosine residues (epigenetics). **Dnmt3b** is thought to function in *de novo* methylation, rather than maintenance methylation. The protein localizes primarily to the nucleus and its expression is developmentally regulated. Mutations in this gene cause the immunodeficiency-centromeric instability-facial anomalies (ICF) syndrome.

This antibody was prepared and characterized by Prof. S. Tajima of Osaka Univ. and used in Ref. 2~4.

Applications

- 1) Western blotting (1,000-fold dilution)
- 2) Immunoprecipitation (1,000-fold dilution), useful for ChiP assays
- 3) Indirect immuno-fluorescence staining (1,000-fold dilution)
- 4) Immunohistochemistry (1,000-fold)

Properties of the product

Immunogen: Highly purified recombinant mouse Dnmt3b (amino acids 1-181) (accession no. [AF068626](#))

Antibody: Affinity-purified with the recombinant Dnmt3b

Reactivity: Reacts with mouse Dnmt3b. It may also reacts with other rodent homologs due the sequence homology, but it does not react with human homolog due to the sequence difference.

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

Storage: -20°C (long period: -80°C)

Data Link UniProtKB/Swiss-Prot [O88509](#) (DNM3B_MOUSE)

References: This antibody was used for Western blotting and immunohistochemistry in Ref. 2~4.

1. Rhee I *et al* "DNMT1 and DNMT3b cooperate to silence genes in human cancer cells" *Nature* **416**: 552-6 (2002) PMID: [11932749](#)
2. Aoki A *et al* "Enzymatic properties of *de novo*-type mouse DNA (cytosine-5) methyltransferases" *Nucleic Acids Research* **29**: 3506-3512 (2001) PMID: [11522819](#)
3. Watanabe D *et al* "Stage- and cell-specific expression of Dnmt3a and Dnmt3b during embryogenesis" *Mechanisms of Development* **118**: 187-190 (2002) PMID: [12351185](#)
4. Sakai Y *et al* "Core-expression of de novo DNA methyltransferases Dnmt3a2 and Dnmt3L in gonocytes of mouse embryos" *Gene Expression Patterns* **5**: 231-237 (2004) PMID: [15567719](#)

The data of Western blotting and immuno-fluorescence staining obtained by using this antibody are shown in the next page.

Related product: [#70-201](#) Anti-Dnmt1 (1-248) antibody, affinity-purified (rabbit polyclonal)

[# 70-203](#) Anti-Dnmt1 (1037-1086) antibody, affinity-purified (rabbit polyclonal)

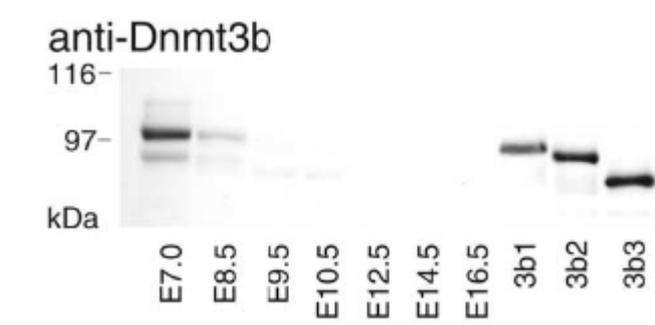


Fig.1 Western blotting of Dnmt3b.

The amounts of Dnmt3b in mouse embryos at the stages of E7.0-E16.5 were examined by Western blotting. The embryos were solubilized by sonication or homogenization in the presence of 0.1% SDS. The dissected embryo (10 ug protein) at each stage was subjected to Western blotting with this antibody. Dnmt3b was highly expressed in E7.0 embryo but decreased thereafter and was below the detection level after E10.5. cDNAs of Dnmt3b isoforms (3b1, 3b2, and 3b3) were transiently expressed in 293T cells and these isoforms were also detectable with this antibody.

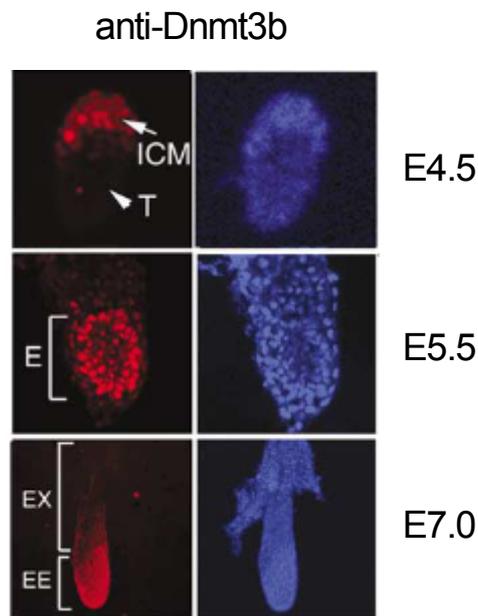


Fig.2 Expression of Dnmt3b in mouse embryos was examined by immunofluorescence staining.

Mouse embryos at E4.5, 5.5 and 7.0 were fixed in cold acetone and stained with this antibody or DAPI (blue). The antibody was detected with anti-rabbit IgG conjugated with ALEXA568 (red). The ICM (the inner cell mass) and trophectoderm (T) are indicated by arrows and arrowheads, respectively. The epiblast (E), and the embryonic ectoderm (EE) and extraembryonic region (EX) are indicated by square brackets. Dnmt3b existed at E4.5-7.0, in ICM at E4.5, the epiblast at E5.5, and the embryonic ectoderm at E7.0.