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Inspiration for Life Science

POLYCLONAL ANTIBODY

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Catalog No. 70-205

Anti-Dnmt3b, affinity-purified, CHIP grade

BACKGROUND

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.

Product type	Primary antibodies
Host	Rabbit
Source	Serum
Form	Liquid 1 mg/ml in PBS, 50% glycerol, 0.05% sodium azide (and trace of ammonium sulfate)
Volume	20 µg
Specificity	Dnmt3b
Antigen	Highly purified recombinant mouse Dnmt3b (amino acids 1-181) (accession no. AF068626)
Isotype	IgG

Application notes	WB, IP, Detection of foci formation by indirect immunofluorescence **Recommended use** **Recommended dilutions** Western blotting: 1,000-fold dilution Immunoprecipitation: 1,000-fold dilution, useful for ChiP assays Indirect immuno-fluorescence staining: 1,000-fold dilution Immunohistochemistry: 1000-fold Optimal dilutions/concentrations should be determined by the end user. **Staining Pattern**
Cross reactivity	Mouse, rat and human Dnmt3b
Storage	-20°C (long period; -80°C)
References	This antibody was used for Western blotting and Immunohistochemistry in Ref. 2~4.

1) Rhee, I. et al. (2002) “DNMT1 and DNMT3b cooperate to silence genes in human cancer cells.” Nature 416: 552-6 PMID: 11932749

2) Aoki,A. et al. (2001) “Enzymatic properties of de novo-type mouse DNA (cytosine-5) methyltransferases.” Nucleic Acids Research 29, 3506-3512 PMID: 11522819

3) Watanabe,D. et al. “Stage- and cell-specific expression of Dnmt3a and Dnmt3b during embryogenesis.” Mechanisms of Development 118, 187-190 PMID: 12351185

4) Sakai,Y. et al. (2004) “Co-expression of de novo DNA methyltransferases Dnmt3a2 and Dnmt3L in gonocytes of mouse embryos.” Gene Expression Patterns 5, 231-237 PMID: 15567719

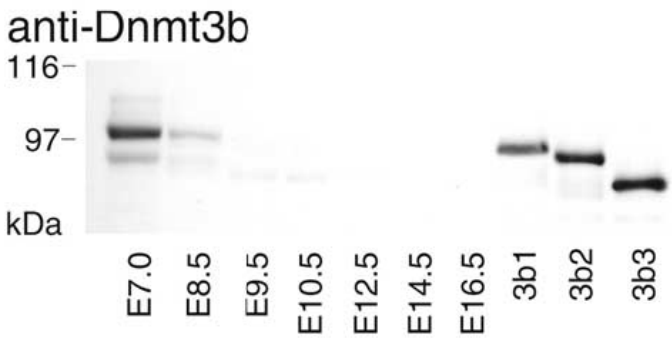

Fig.1 Western blotting of Dnmt3b.

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.

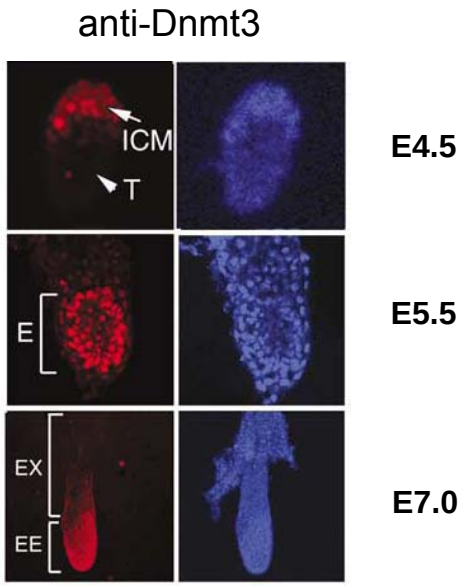

Fig.2 Expression of Dnmt3b in mouse embyos was examined by immuno-fluorescence staining.

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.

Related product:

#70-201 Anti-Dnmt1 (1-248) antibody, affinity-purified (rabbit polyclonal)

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

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Manufactured by BioAcademia,Inc.

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