SANTA CRUZ BIOTECHNOLOGY, INC.

Dnmt3b (T-16): sc-10236

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

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.

CHROMOSOMAL LOCATION

Genetic locus: DNMT3B (human) mapping to 20q11.21; Dnmt3b (mouse) mapping to 2 H1.

SOURCE

Dnmt3b (T-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Dnmt3b of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-10236 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Dnmt3b (T-16) is recommended for detection of Dnmt3b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Dnmt3b siRNA (h): sc-37759, Dnmt3b siRNA (m): sc-37760, Dnmt3b siRNA (r): sc-270020, Dnmt3b shRNA Plasmid (h): sc-37759-SH, Dnmt3b shRNA Plasmid (m): sc-37760-SH, Dnmt3b shRNA Plasmid (r): sc-270020-SH, Dnmt3b shRNA (h) Lentiviral Particles: sc-37759-V, Dnmt3b shRNA (m) Lentiviral Particles: sc-37760-V and Dnmt3b shRNA (r) Lentiviral Particles: sc-270020-V.

Molecular Weight of Dnmt3b: 97 kDa.

Positive Controls: Dnmt3b (h): 293 Lysate: sc-128485, HeLa whole cell lysate: sc-2200 or K-562 nuclear extract: sc-2130.

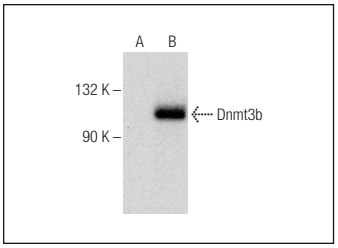
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

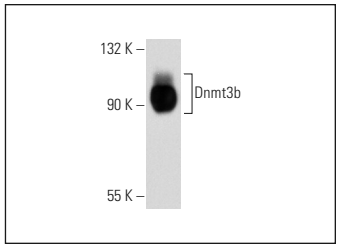
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



Dnmt3b (T-16): sc-10236. Western blot analysis of Dnmt3b expression in non-transfected: sc-110760 (**A**) and human Dnmt3b transfected: sc-128485 (**B**) 293 whole cell lysates.



Dnmt3b (T-16): sc-10236. Western blot analysis of Dnmt3b expression in K-562 nuclear extract.

SELECT PRODUCT CITATIONS

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3. Cowin, P.A., et al. 2010. Vinclozolin exposure in utero induces postpubertal prostatitis and reduces sperm production via a reversible hormone-regulated mechanism. Endocrinology 151: 783-792.
4. Huang, L., et al. 2011. Prevention of transcriptional silencing by a replicator-binding complex consisting of SWI/SNF, MeCP1, and hnRNP C1/C2. Mol. Cell. Biol. 31: 3472-3484.
5. Fang, J., et al. 2012. Epigenetic changes mediated by microRNA miR29 activate cyclooxygenase 2 and lambda-1 interferon production during viral infection. J. Virol. 86: 1010-1020.
6. Ostler, K.R., et al. 2012. Truncated DNMT3B isoform DNMT3B7 suppresses growth, induces differentiation, and alters DNA methylation in human neuroblastoma. Cancer Res. 72: 4714-4723.
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