

Dnmt3b (Q-25): sc-130740

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.

SOURCE

Dnmt3b (Q-25) is a purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of Dnmt3b of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

Dnmt3b (Q-25) is recommended for detection of Dnmt3b of 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), immunohistochemistry (including paraffin-embedded sections) (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 shRNA Plasmid (h): sc-37759-SH and Dnmt3b shRNA (h) Lentiviral Particles: sc-37759-V.

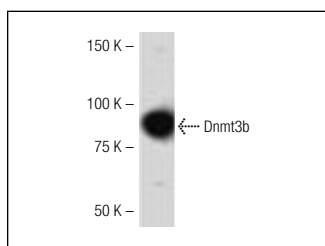
Molecular Weight of Dnmt3b: 97 kDa.

Positive Controls: T-47D cell lysate: sc-2293, K-562 nuclear extract: sc-2130 or HeLa whole cell lysate: sc-2200.

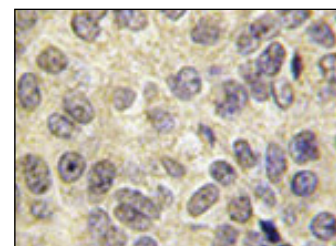
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Dnmt3b (Q-25): sc-130740. Western blot analysis of Dnmt3b expression in T-47D whole cell lysate.



Dnmt3b (Q-25): sc-130740. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human prostate carcinoma tissue showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Palamarchuk, A., et al. 2012. Tcl1 protein functions as an inhibitor of *de novo* DNA methylation in B-cell chronic lymphocytic leukemia (CLL). *Proc. Natl. Acad. Sci. USA* 109: 2555-2560.
- Gu, Y., et al. 2013. Investigation of the expression patterns and correlation of DNA methyltransferases and class I histone deacetylases in ovarian cancer tissues. *Oncol. Lett.* 5: 452-458.
- Yu, Z., et al. 2015. DNA methyltransferase 1/3a overexpression in sporadic breast cancer is associated with reduced expression of estrogen receptor- α /breast cancer susceptibility gene 1 and poor prognosis. *Mol. Carcinog.* 54: 707-719.

RESEARCH USE

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



Try **Dnmt3b (G-9): sc-376043** or **Dnmt3b (F-2): sc-393845**, our highly recommended monoclonal alternatives to Dnmt3b (Q-25). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Dnmt3b (G-9): sc-376043**.