

Dnmt3L (P-15): sc-10241

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, thereby repressing expression of the target gene. Dnmt3L (DNA (cytosine-5)-methyltransferase 3-like) is a 387 amino acid protein that contains one ADD-type zinc finger and is a member of the Dnmt family. Localized to the nucleus and expressed at low levels in thymus, testis and ovary, Dnmt3L does not exhibit DNA methyltransferase activity, but is able to stimulate *de novo* methylation by Dnmt3 and is thought to play a key role in the establishment of genomic imprints. Additionally, Dnmt3L interacts with histone deacetylase 1 (HDAC1) and, through this interaction, mediates transcriptional repression. Multiple isoforms of Dnmt3L exist due to alternative splicing events.

REFERENCES

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4. Walsh, C.P. and Bestor, T.H. 1999. Cytosine methylation and mammalian development. *Genes Dev.* 13: 26-34.
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6. Bigey, P., Ramchandani, S., Theberge, J., Araujo, F.D., Szyf, M. 2000. Transcriptional regulation of the human DNA methyltransferase (Dnmt1) gene. *Gene* 242: 407-418.
7. Fuks, F., Burgers, W.A., Brehm, A., Hughes-Davies, L. and Kouzarides, T. 2000. DNA methyltransferase Dnmt1 associates with histone deacetylase activity. *Nat. Genet.* 24: 88-91.

CHROMOSOMAL LOCATION

Genetic locus: DNMT3L (human) mapping to 21q22.3.

SOURCE

Dnmt3L (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Dnmt3L of human origin.

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.

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-10241 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Dnmt3L (P-15) is recommended for detection of Dnmt3L of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 Dnmt3L siRNA (h): sc-37761, Dnmt3L shRNA Plasmid (h): sc-37761-SH and Dnmt3L shRNA (h) Lentiviral Particles: sc-37761-V.

Molecular Weight of Dnmt3L: 43 kDa.

Positive Controls: mouse testis extract: sc-2405 or ES-2 cell lysate: sc-24674.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

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



Try **Dnmt3L (A-4): sc-393603**, our highly recommended monoclonal alternative to Dnmt3L (P-15).