

DOT1L1 (C-19): sc-69562

BACKGROUND

DOT1L1, also known as DOT1L (DOT1-like, histone H3 methyltransferase), DOT1 or KMT4, is a 1,739 amino acid homolog of the yeast DOT1 (disruptor of telomeric silencing-1) protein. Localized to the nucleus and highly expressed in testis, lung and kidney, DOT1L1 is a histone methyltransferase that transfers methyl groups from S-adenosyl-L-methionine to lysine residues on various substrates, such as nucleosomes or histones. While most histone methyltransferases contain a SET domain through which they confer their enzymatic activity, DOT1L1 does not contain this characteristic domain and is, therefore, thought to function through a different mechanism. DOT1L1 can bind with several MLL-fusion partners found in acute leukemia and, through this binding, can promote oncogenesis. Two isoforms of DOT1L1 are expressed due to alternative splicing events.

REFERENCES

1. Feng, Q., Wang, H., Ng, H.H., Erdjument-Bromage, H., Tempst, P., Struhl, K. and Zhang, Y. 2002. Methylation of H3-lysine 79 is mediated by a new family of HMTases without a SET domain. *Curr. Biol.* 12: 1052-1058.
2. Min, J., Feng, Q., Li, Z., Zhang, Y. and Xu, R.M. 2003. Structure of the catalytic domain of human DOT1L, a non-SET domain nucleosomal histone methyltransferase. *Cell* 112: 711-723.
3. Okada, Y., Feng, Q., Lin, Y., Jiang, Q., Li, Y., Coffield, V.M., Su, L., Xu, G. and Zhang, Y. 2005. hDOT1L links histone methylation to leukemogenesis. *Cell* 121: 167-178.
4. Okada, Y., Jiang, Q., Lemieux, M., Jeannotte, L., Su, L. and Zhang, Y. 2006. Leukaemic transformation by CALM-AF10 involves upregulation of Hoxa5 by hDOT1L. *Nat. Cell Biol.* 8: 1017-1024.
5. Zhang, W., Xia, X., Reisenauer, M.R., Hemenway, C.S. and Kone, B.C. 2006. Dot1a-AF9 complex mediates histone H3 Lys-79 hypermethylation and repression of ENaC α in an aldosterone-sensitive manner. *J. Biol. Chem.* 281: 18059-18068.
6. Zhang, W., Xia, X., Jalal, D.I., Kuncewicz, T., Xu, W., Lesage, G.D. and Kone, B.C. 2006. Aldosterone-sensitive repression of ENaC α transcription by a histone H3 lysine-79 methyltransferase. *Am. J. Physiol., Cell Physiol.* 290: C936-C946.

CHROMOSOMAL LOCATION

Genetic locus: DOT1L (human) mapping to 19p13.3; Dot1l (mouse) mapping to 10 C1.

SOURCE

DOT1L1 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DOT1L1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-69562 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

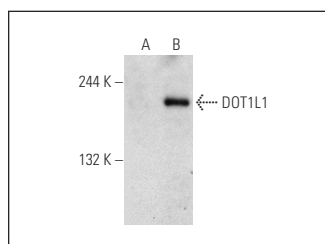
DOT1L1 (C-19) is recommended for detection of DOT1L1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 DOT1L1 siRNA (h): sc-77174, DOT1L1 siRNA (m): sc-77175, DOT1L1 shRNA Plasmid (h): sc-77174-SH, DOT1L1 shRNA Plasmid (m): sc-77175-SH, DOT1L1 shRNA (h) Lentiviral Particles: sc-77174-V and DOT1L1 shRNA (m) Lentiviral Particles: sc-77175-V.

Molecular Weight of DOT1L1: 185 kDa.

Positive Controls: DOT1L1 (m): 293T Lysate: sc-178530.

DATA



DOT1L1 (C-19): sc-69562. Western blot analysis of DOT1L1 expression in non-transfected: sc-117752 (A) and mouse DOT1L1 transfected: sc-178530 (B) 293T whole cell lysates.

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.

PROTOCOLS

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



Try **DOT1L1 (E-5): sc-374317** or **DOT1L1 (E-2): sc-376036**, our highly recommended monoclonal alternatives to DOT1L1 (C-19).