

DOT1L1 (E-5): sc-374317

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., et al. 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., et al. 2003. Structure of the catalytic domain of human DOT1L, a non-SET domain nucleosomal histone methyltransferase. *Cell* 112: 711-723.
3. Okada, Y., et al. 2005. hDOT1L links histone methylation to leukemogenesis. *Cell* 121: 167-178.
4. Okada, Y., et al. 2006. Leukaemic transformation by CALM-AF10 involves upregulation of HoxA5 by hDOT1L. *Nat. Cell Biol.* 8: 1017-1024.
5. Zhang, W., et al. 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.

CHROMOSOMAL LOCATION

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

SOURCE

DOT1L1 (E-5) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of DOT1L1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-374317 X, 200 μ g/0.1 ml.

DOT1L1 (E-5) is available conjugated to agarose (sc-374317 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374317 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374317 PE), fluorescein (sc-374317 FITC), Alexa Fluor[®] 488 (sc-374317 AF488), Alexa Fluor[®] 546 (sc-374317 AF546), Alexa Fluor[®] 594 (sc-374317 AF594) or Alexa Fluor[®] 647 (sc-374317 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374317 AF680) or Alexa Fluor[®] 790 (sc-374317 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

DOT1L1 (E-5) is recommended for detection of DOT1L1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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.

DOT1L1 (E-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

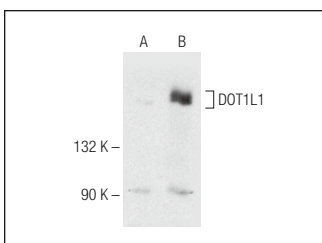
Molecular Weight of DOT1L1: 185 kDa.

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

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



DOT1L1 (E-5): sc-374317. 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.