SANTA CRUZ BIOTECHNOLOGY, INC.

METTL7B (D-2): sc-398626

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

METTL7B (methyltransferase-like protein 7B) is a 244 amino acid protein belonging to the methyltransferase superfamily. METTL7B is believed to have methyltransferase activity, wherein METTL7B catalyzes the transfer of a methyl group from one compound to another. The gene that encodes METTL7B maps to chromosome 12 which makes up about 4.5% of the human genome. A number of skeletal deformities are linked to chromosome 12 including hypochondrogenesis, achondrogenesis and Kniest dysplasia. Chromosome 12 is also home to a homeobox gene cluster which encodes crucial transcription factors for morphogenesis, and the natural killer complex gene cluster encoding C-type lectin proteins which mediate the NK cell response to MHC I interaction. Trisomy 12p leads to facial development defects, seizure disorders and a host of other symptoms varying in severity depending on the extent of mosaicism and is most severe in cases of complete trisomy.

REFERENCES

1. Allen, T.L., et al. 1996. Cytogenetic and molecular analysis in trisomy 12p. Am. J. Med. Genet. 63: 250-256.
2. Yang, W. and Cole, W.G. 1998. Low basal transcripts of the COL2A1 collagen gene from lymphoblasts show alternative splicing of exon 12 in the Kniest form of spondyloepiphyseal dysplasia. Hum. Mutat. 1: S1-S2.
3. Trowsdale, J., et al. 2001. The genomic context of natural killer receptor extended gene families. Immunol. Rev. 181: 20-38.
4. Zumkeller, W., et al. 2004. Genotype/phenotype analysis in a patient with pure and complete trisomy 12p. Am. J. Med. Genet. A 129A: 261-264.
5. Kelley, J., et al. 2005. Comparative genomics of natural killer cell receptor gene clusters. PLoS Genet. 1: 129-39.

CHROMOSOMAL LOCATION

Genetic locus: METTL7B (human) mapping to 12q13.2.

SOURCE

METTL7B (D-2) is a mouse monoclonal antibody raised against amino acids 169-244 mapping at the C-terminus of METTL7B of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

METTL7B (D-2) is available conjugated to agarose (sc-398626 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398626 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398626 PE), fluorescein (sc-398626 FITC), Alexa Fluor® 488 (sc-398626 AF488), Alexa Fluor® 546 (sc-398626 AF546), Alexa Fluor® 594 (sc-398626 AF594) or Alexa Fluor® 647 (sc-398626 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398626 AF680) or Alexa Fluor® 790 (sc-398626 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

METTL7B (D-2) is recommended for detection of METTL7B of human origin by Western Blotting (starting dilution 1:100, 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 METTL7B siRNA (h): sc-96008, METTL7B shRNA Plasmid (h): sc-96008-SH and METTL7B shRNA (h) Lentiviral Particles: sc-96008-V.

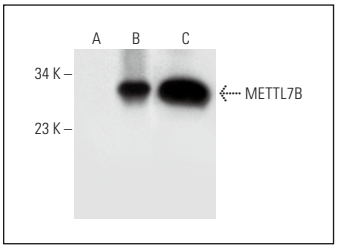
Molecular Weight of METTL7B: 28 kDa.

Positive Controls: METTL7B (h): 293T Lysate: sc-158726 or U-251-MG whole cell lysate: sc-364176.

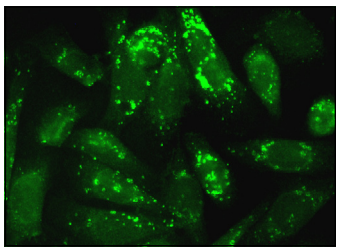
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



METTL7B (D-2): sc-398626. Western blot analysis of METTL7B expression in non-transfected 293T: sc-117752 (**A**), human METTL7B transfected 293T: sc-158726 (**B**) and U-251-MG (**C**) whole cell lysates.



METTL7B (D-2): sc-398626. Immunofluorescence staining of formalin-fixed SW480 cells showing lipid droplets localization.

SELECT PRODUCT CITATIONS

1. Xiong, Y., et al. 2021. High level of METTL7B indicates poor prognosis of patients and is related to immunity in glioma. Front. Oncol. 11: 650534.
2. Constantinou, M., et al. 2024. Lineage specification in glioblastoma is regulated by METTL7B. Cell Rep. 43: 114309.

STORAGE

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