

# RNMT (E-17): sc-74655

## BACKGROUND

RNMT (RNA (guanine-7-) methyltransferase), also known as MET, RG7MT1 or hCMT1c, is a widely expressed nuclear protein that belongs to the mRNA cap methyltransferase family. It is responsible for catalyzing the final step in the attachment of the m7GpppN cap to the 5' end of mRNA. Capping of mRNA plays an important role in mRNA processing, stability and translation, and is therefore important for efficient gene expression. There are three enzymatic steps in the generation of the mRNA cap. The first two steps are catalyzed by RNGTT (RNA guanylyltransferase and 5' phosphatase), and the third step is catalyzed by RNMT. More specifically, RNMT catalyzes the transfer of a methyl group from AdoMet (S-adenosylmethionine) to the GpppN end of the growing mRNA at the N-7 position, thereby producing AdoHyc (S-adenosylhomocysteine) and m7GpppN terminated RNA. Two additional isoforms of RNMT exist due to alternative splicing events, namely hCMT1a and hCMT1b.

## REFERENCES

- Pillutla, R.C., Shimamoto, A., Furuichi, Y. and Shatkin, A.J. 1998. Human mRNA capping enzyme (RNGTT) and cap methyltransferase (RNMT) map to 6q16 and 18p11.22-p11.23, respectively. *Genomics* 54: 351-353.
- Pillutla, R.C., Yue, Z., Maldonado, E. and Shatkin, A.J. 1998. Recombinant human mRNA cap methyltransferase binds capping enzyme/RNA polymerase I complexes. *J. Biol. Chem.* 273: 21443-21446.
- Yokoska, J., Tsukamoto, T., Miura, K., Shiokawa, K. and Mizumoto, K. 2000. Cloning and characterization of mRNA capping enzyme and mRNA (guanine-7-)-methyltransferase cDNAs from *Xenopus laevis*. *Biochem. Biophys. Res. Commun.* 268: 617-624.
- Li, J., Fontaine-Rodriguez, E.C. and Whelan, S.P. 2005. Amino acid residues within conserved domain VI of the vesicular stomatitis virus large polymerase protein essential for mRNA cap methyltransferase activity. *J. Virol.* 79: 13373-13384.

## CHROMOSOMAL LOCATION

Genetic locus: RNMT (human) mapping to 18p11.21; Rnmt (mouse) mapping to 18 E2.

## SOURCE

RNMT (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RNMT of human origin.

## 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-74655 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-74655 X, 200 µg/0.1 ml.

## RESEARCH USE

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

## APPLICATIONS

RNMT (E-17) is recommended for detection of RNMT of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RNMT (E-17) is also recommended for detection of RNMT in additional species, including equine, canine, bovine and porcine.

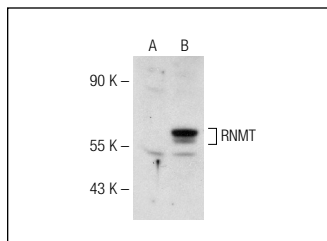
Suitable for use as control antibody for RNMT siRNA (h): sc-75230, RNMT siRNA (m): sc-75231, RNMT shRNA Plasmid (h): sc-75230-SH, RNMT shRNA Plasmid (m): sc-75231-SH, RNMT shRNA (h) Lentiviral Particles: sc-75230-V and RNMT shRNA (m) Lentiviral Particles: sc-75231-V.

RNMT (E-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of RNMT: 55 kDa.

Positive Controls: RNMT (h): 293T Lysate: sc-115349 or HeLa whole cell lysate: sc-2200.

## DATA



RNMT (E-17): sc-74655. Western blot analysis of RNMT expression in non-transfected: sc-117752 (A) and human RNMT transfected: sc-115349 (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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **RNMT (3H3-1D12): sc-517112**, our highly recommended monoclonal alternative to RNMT (E-17).