

# RNMTL1 (F-3): sc-374210

## BACKGROUND

The RNA methyltransferase family of proteins catalyze the transfer of a methyl group from a donor to an RNA acceptor. Via their ability to modify RNA, RNA methyltransferase proteins play an important role in cell growth and signaling pathways and may be involved in tumor development and progression. RNMTL1 (RNA methyltransferase like 1), also known as HC90, is a 420 amino acid protein belonging to the RNA methyltransferase trmH family. Expressed in normal liver and hepatocarcinoma, RNMTL1 is encoded by a gene located on human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

## REFERENCES

1. Sindhuphak, T., et al. 1985. Site specificities of three transfer RNA methyltransferases from yeast. *Biochim. Biophys. Acta* 824: 66-73.
2. Xu, J., et al. 2002. The ATF/CREB site is the key element for transcription of the human RNA methyltransferase like 1(RNMTL1) gene, a newly discovered 17p13.3 gene. *Cell Res.* 12: 177-197.

## CHROMOSOMAL LOCATION

Genetic locus: RNMTL1 (human) mapping to 17p13.3; Rnmtl1 (mouse) mapping to 11 B5.

## SOURCE

RNMTL1 (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 205-239 within an internal region of RNMTL1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RNMTL1 (F-3) is available conjugated to agarose (sc-374210 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374210 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374210 PE), fluorescein (sc-374210 FITC), Alexa Fluor® 488 (sc-374210 AF488), Alexa Fluor® 546 (sc-374210 AF546), Alexa Fluor® 594 (sc-374210 AF594) or Alexa Fluor® 647 (sc-374210 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374210 AF680) or Alexa Fluor® 790 (sc-374210 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374210 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

RNMTL1 (F-3) is recommended for detection of RNMTL1 of mouse, rat and 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).

RNMTL1 (F-3) is also recommended for detection of RNMTL1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for RNMTL1 siRNA (h): sc-93988, RNMTL1 siRNA (m): sc-153056, RNMTL1 shRNA Plasmid (h): sc-93988-SH, RNMTL1 shRNA Plasmid (m): sc-153056-SH, RNMTL1 shRNA (h) Lentiviral Particles: sc-93988-V and RNMTL1 shRNA (m) Lentiviral Particles: sc-153056-V.

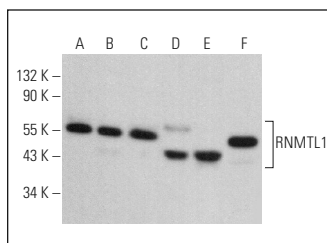
Molecular Weight of RNMTL1: 47 kDa.

Positive Controls: U-251-MG whole cell lysate: sc-364176., Hep G2 cell lysate: sc-2227 or RT-4 whole cell lysate: sc-364257.

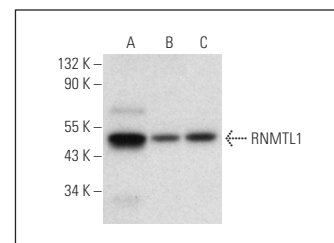
## RECOMMENDED SUPPORT REAGENTS

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



RNMTL1 (F-3): sc-374210. Western blot analysis of RNMTL1 expression in HeLa (A), COLO 205 (B), MCF7 (C), F9 (D), NIH/3T3 (E) and A549 (F) whole cell lysates.



RNMTL1 (F-3): sc-374210. Western blot analysis of RNMTL1 expression in Hep G2 (A), RT-4 (B) and U-251-MG (C) 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.