SANTA CRUZ BIOTECHNOLOGY, INC.

# TRMT6 (F-3): sc-271752

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Transfer RNA (tRNA) modifications help regulate the efficiency of mRNA translation by maintaining the correct reading frames within mRNA. TRMT6 (tRNA methyltransferase 6 ), also known as GCD10 or TRM6, is a 497 amino acid protein that localizes to the nucleus and exists as a heterodimer with TRM61. Expressed in liver, brain, ovary and testis, TRMT6 functions as a substrate-binding subunit of tRNA and is thought to catalyze the formation of N(1)-methyladenine at position 58 in initiator methionyl-tRNA. TRMT6 exists as three alternatively spliced isoforms that, in response to DNA damage, may be phosphorylated by ATM or ATR. The gene encoding TRMT6 maps to human chromosome 20, which houses over 600 genes and comprises nearly 2% of the human genome.

## CHROMOSOMAL LOCATION

Genetic locus: TRMT6 (human) mapping to 20p12.3.

## SOURCE

TRMT6 (F-3) is a mouse monoclonal antibody raised against amino acids 154-349 mapping within an internal region of TRMT6 of human origin.

## PRODUCT

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

TRMT6 (F-3) is available conjugated to agarose (sc-271752 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271752 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271752 PE), fluorescein (sc-271752 FITC), Alexa Fluor® 488 (sc-271752 AF488), Alexa Fluor® 546 (sc-271752 AF546), Alexa Fluor® 594 (sc-271752 AF594) or Alexa Fluor® 647 (sc-271752 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271752 AF680) or Alexa Fluor® 790 (sc-271752 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

TRMT6 (F-3) is recommended for detection of TRMT6 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), immunohistochemistry (including paraffin-embedded sections) (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 TRMT6 siRNA (h): sc-76756, TRMT6 shRNA Plasmid (h): sc-76756-SH and TRMT6 shRNA (h) Lentiviral Particles: sc-76756-V.

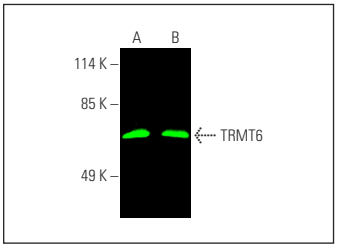
Molecular Weight of TRMT6: 56 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285 or Hep G2 nuclear extract: sc-364819.

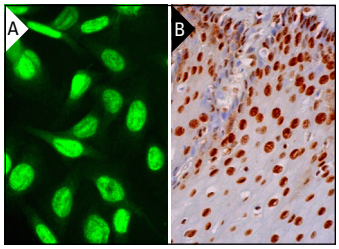
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA




TRMT6 (F-3): sc-271752. Near-infrared western blot analysis of TRMT6 expression in Hep G2 nuclear extract (**A**) and MIA PaCa-2 whole cell lysate (**B**). Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.




TRMT6 (F-3): sc-271752. Immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear staining of squamous epithelial cells (**B**).

## SELECT PRODUCT CIATIONS


1. Lang, D., et al. 2013. Probing the acetylation code of Histone H4. Proteomics 13: 2989-2997.
2. Li, X., et al. 2017. Base-resolution mapping reveals distinct $m^1A$ methylome in nuclear- and mitochondrial-encoded transcripts. Mol. Cell 68: 993-1005.e9.
3. Su, Z., et al. 2022. TRMT6/61A-dependent base methylation of tRNA-derived fragments regulates gene-silencing activity and the unfolded protein response in bladder cancer. Nat. Commun. 13: 2165.
4. Boo, S.H., et al. 2022. $m^1A$ and $m^6A$ modifications function cooperatively to facilitate rapid mRNA degradation. Cell Rep. 40: 111317.


## 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 for detailed protocols and support products.