

TRM61 (C145I165): sc-81062

BACKGROUND

TRM61 (tRNA m1A58 methyltransferase subunit TRM61), also known as GCD14, is one of two subunits (the other being TRM6) that function as heterotetramers to comprise the tRNA m1A58 methyltransferase. The tRNA m1A58 methyltransferase plays a role in tRNA modification and is specifically responsible for the formation of 1-methyladenosine. 1-methyladenosine is a modified nucleoside found at position 58 in tRNA and is required for maintaining the stability of initiator methionine tRNA (tRNA^{iMet}), which is directly involved in the initiation of protein synthesis. This implies that TRM61 is crucial for proper tRNA structure and function. Mutations in the gene encoding TRM61 which cause structural changes in the substrate-binding pocket of tRNA m1A58 methyltransferase can lead to instability of tRNA^{iMet}.

REFERENCES

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- Anderson, J., et al. 2000. The Gcd10p/Gcd14p complex is the essential two-subunit tRNA(1-methyladenosine) methyltransferase of *Saccharomyces cerevisiae*. *Proc. Natl. Acad. Sci. USA* 97: 5173-5178.
- Bujnicki, J.M. 2001. In silico analysis of the tRNA:m1A58 methyltransferase family: homology-based fold prediction and identification of new members from eubacteria and archaea. *FEBS Lett.* 507: 123-127.
- Kadaba, S., et al. 2004. Nuclear surveillance and degradation of hypo-modified initiator tRNA^{iMet} in *S. cerevisiae*. *Genes Dev.* 18: 1227-1240.
- Arhin, G.K., et al. 2004. Role of a 300 kDa nuclear complex in the maturation of *Trypanosoma brucei* initiator methionyl-tRNA. *Eukaryotic Cell* 3: 893-899.
- Ozanick, S., et al. 2005. The bipartite structure of the tRNA m1A58 methyltransferase from *S. cerevisiae* is conserved in humans. *RNA* 11: 1281-1290.
- Hiley, S.L., et al. 2005. Detection and discovery of RNA modifications using microarrays. *Nucleic Acids Res.* 33: e2.

CHROMOSOMAL LOCATION

Genetic locus: TRMT61A (human) mapping to 14q32.32.

SOURCE

TRM61 (C145I165) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the C-terminal region of TRM61 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

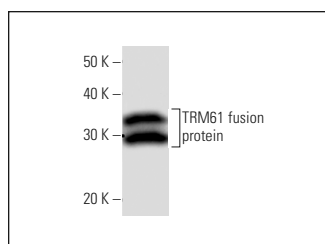
APPLICATIONS

TRM61 (C145I165) is recommended for detection of TRM61 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for TRM61 siRNA (h): sc-92089, TRM61 shRNA Plasmid (h): sc-92089-SH and TRM61 shRNA (h) Lentiviral Particles: sc-92089-V.

Molecular Weight of TRM61: 33 kDa.

DATA



TRM61 (C145I165): sc-81062. Western Blot analysis of human recombinant TRM61 fusion protein.

SELECT PRODUCT CITATIONS

- Saikia, M., et al. 2010. Genome-wide analysis of N¹-methyl-adenosine modification in human tRNAs. *RNA* 16: 1317-1327.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.