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TRMT1 Rabbit pAb

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Catalog # AP56575

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9NXH9
Reactivity	Mouse
Predicted	Human, Rat, Pig, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	72234
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human TRMT1
Epitope Specificity	501-600/659
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 C3H1-type zinc finger.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Transfer RNA (tRNA) modifications help regulate the efficiency of mRNA translation by maintaining the correct reading frames. N(2),N(2)-dimethylguanosine tRNA methyltransferase, also known as TRMT1 or tRNA(guanine-26,N(2)-N(2)) methyltransferase, is a 659 amino acid enzyme that is responsible for tRNA modifications in eukaryotes. Using S-adenosyl-L-methionine as a methyl donor, TRMT1 dimethylates a single guanine residue at position 26 of tRNA. TRMT1, which was initially identified in yeast and C. elegans, has a 26% and 31% sequence identity to its yeast and C. elegans homologs, respectively. There are two isoforms of TRMT1 produced by alternative splicing events. The TRMT1 gene maps to chromosome 19p13.13 and mutations in this gene lead to abrogated enzyme activity and a decrease in protein levels.

Additional Information

Gene ID	55621
Other Names	tRNA (guanine(26)-N(2))-dimethyltransferase, 2.1.1.216, tRNA 2, 2-dimethylguanosine-26 methyltransferase, tRNA methyltransferase 1, hTRM1, tRNA(guanine-26, N(2)-N(2)) methyltransferase, tRNA(m(2, 2)G26)dimethyltransferase, TRMT1 {ECO:0000303|PubMed:26308914, ECO:0000312|HGNC:HGNC:25980}
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500

Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

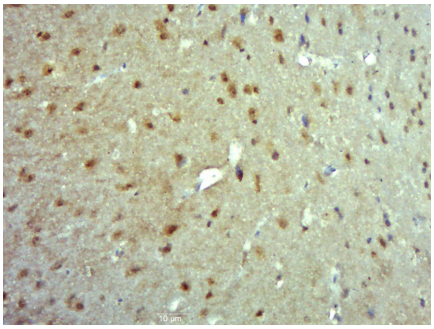
Protein Information

Name	TRMT1 {ECO:0000303|PubMed:26308914, ECO:0000312|HGNC:HGNC:25980}
Function	Dimethylates a single guanine residue at position 26 of most nuclear- and mitochondrial-encoded tRNAs using S-adenosyl-L-methionine as donor of the methyl groups (PubMed:10982862, PubMed:28784718, PubMed:37204604, PubMed:39786990). tRNA guanine(26)-dimethylation is required for redox homeostasis and ensure proper cellular proliferation and oxidative stress survival (PubMed:28784718).
Cellular Location	[Isoform 1]: Mitochondrion

Background

Transfer RNA (tRNA) modifications help regulate the efficiency of mRNA translation by maintaining the correct reading frames. N(2),N(2)-dimethylguanosine tRNA methyltransferase, also known as TRMT1 or tRNA(guanine-26,N(2)-N(2)) methyltransferase, is a 659 amino acid enzyme that is responsible for tRNA modifications in eukaryotes. Using S-adenosyl-L-methionine as a methyl donor, TRMT1 dimethylates a single guanine residue at position 26 of tRNA. TRMT1, which was initially identified in yeast and C. elegans, has a 26% and 31% sequence identity to its yeast and C. elegans homologs, respectively. There are two isoforms of TRMT1 produced by alternative splicing events. The TRMT1 gene maps to chromosome 19p13.13 and mutations in this gene lead to abrogated enzyme activity and a decrease in protein levels.

Images



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (TRMT1) Polyclonal Antibody, Unconjugated (AP56575) at 1:500 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.