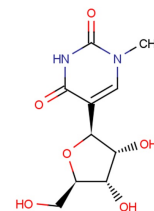


N1-Methylpseudouridine

Chemical Properties

CAS No.:	13860-38-3
Formula:	C10H14N2O6
Molecular Weight:	258.23
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).



Biological Description

Description	N1-Methylpseudouridine is a methylpseudouridine, in mRNA enhances translation through eIF2 α -dependent and independent mechanisms by increasing ribosome density.
Targets(IC ₅₀)	Others: None
In vitro	In HEK293T cells, incorporation of N1-methyl-pseudouridine into mRNA modifies mRNAs produced higher amounts of luc than the standard Luc mRNA. Incorporation of N1-methyl-pseudouridine nucleoside modification in both Luc and GFP mRNA enhances the initiation step of translation, in part by suppressing eIF2 α phosphorylation. In addition, polysome formation and growth on the NN1-methyl-pseudouridine-containing Luc mRNA is enhanced due to the reduction of elongation rate[1].
In vivo	N1-methyl-pseudouridine (1-Methylpseudouridine) (20 μ g; I.m. or i.d. routes for 21 days) and m5C/ N1-methyl-pseudouridine-modified mRNA respectively have a higher translational capacity than Ψ and m5C/ Ψ -modified mRNA in vivo. N1-methylpseudouridine-incorporated mRNA outperforms pseudouridine-incorporated mRNA by providing enhanced protein expression and reduced immunogenicity in mammalian cell lines and mice[2].

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.873 mL	19.363 mL	38.725 mL
5 mM	0.775 mL	3.873 mL	7.745 mL
10 mM	0.387 mL	1.936 mL	3.873 mL
50 mM	0.077 mL	0.387 mL	0.775 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Svitkin YV, et al. N1-methyl-pseudouridine in mRNA enhances translation through eIF2 α -dependent and independent mechanisms by increasing ribosome density. *Nucleic Acids Res.* 2017 Jun 2;45(10):6023-6036.
2. Andries O, et al. N(1)-methylpseudouridine-incorporated mRNA outperforms pseudouridine-incorporated mRNA by providing enhanced protein expression and reduced immunogenicity in mammalian cell lines and mice. *J Control Release.* 2015 Nov 10;217:337-44.

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