Pseudouridine 5'-triphosphate

Cat. No.: HY-141567

CAS No.: 1175-34-4

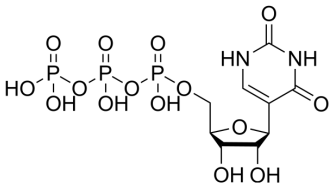
Molecular Formula: $C_9H_{15}N_2O_{15}P_3$

Molecular Weight: 484.14

Target: DNA/RNA Synthesis

Pathway: Cell Cycle/DNA Damage

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



SOLVENT & SOLUBILITY

In Vitro

H_2O : 250 mg/mL (516.38 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.0655 mL	10.3276 mL	20.6552 mL
	5 mM	0.4131 mL	2.0655 mL	4.1310 mL
	10 mM	0.2066 mL	1.0328 mL	2.0655 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

pseudouridine-5’-triphosphate (Pseudo-UTP) is one of the most commonly used modified nucleoside for the polymerase-mediated synthesis of RNA molecules. Compared with uridine-containing unmodified mRNAs, the application of pseudouridine-containing modified mRNAs exhibits better nuclease stability, immunogenicity, and translational properties [1].

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REFERENCES

[1]. Morais P, Adachi H, Yu YT. The Critical Contribution of Pseudouridine to mRNA COVID-19 Vaccines. Front Cell Dev Biol. 2021;9:789427. Pu

[2]. Muthian Shanmugasundaram, et al. An Efficient Protection-Free One-Pot Chemical Synthesis of Modified Nucleoside-5'-Triphosphates. Nucleosides Nucleotides Nucleic Acids. 2016 Jul 2;35(7):356-62.

[3]. Shanmugasundaram M, Senthilvelan A, Kore AR. Gram-Scale Chemical Synthesis of Base-Modified Ribonucleoside-5'-O-Triphosphates. Curr Protoc Nucleic Acid Chem. 2016;67:13.15.1-13.15.10.

[4]. Borchardt EK, Martinez NM, Gilbert WV. Regulation and Function of RNA Pseudouridylation in Human Cells. Annu Rev Genet. 2020;54:309-336.

[5]. Anderson BR, Muramatsu H, Nallagatla SR, et al. Incorporation of pseudouridine into mRNA enhances translation by diminishing PKR activation. Nucleic Acids Res. 2010;38(17):5884-5892.

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