
Product Data Sheet

Product Name: N1-Methylpseudo-UTP

Cat. No.: GB20161

Chemical Properties

Cas. No.

Formula $C_{10}H_{17}N_2O_{15}P_3$ (free acid) M.Wt 498.1 (free acid)

Solubility Storage Store at -20°C or below

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

Background

N1-methylpseudo-UTP is a nucleobase-modified nucleotide, used for synthesizing mRNA with reduced immunogenicity and improved stability. It was reported that N1-methylpseudouridine (m1 ψ) modification alone or in combination with 5-methylcytidine (m5C) exhibited superiority over the current state-of-the-art pseudouridine (ψ) or m5C/ ψ -modified mRNA platform by providing up to ~ 44-fold (when comparing double modified mRNAs) and ~ 13-fold (when comparing single modified mRNAs) higher reporter gene expression in cells and mice, respectively. Moreover, compared with (m5C/) ψ -modified mRNAs, (m5C/)m1 ψ -modified mRNAs showed reduced intracellular innate immunogenicity and resulted in improved cellular viability after in vitro transfection. Thus, N1-methylpseudo-UTP might serve as a useful ingredient for synthesizing drugable mRNAs with better performance. Reference: 1. Andries O, Mc Cafferty S, De Smedt SC, et al. N1-methylpseudouridine-incorporated mRNA outperforms pseudouridine-incorporated mRNA by providing enhanced protein expression and reduced immunogenicity in mammalian cell lines and mice. *Journal of Controlled Release*, 2015, 217: 337-344.

Caution: Product has not been fully validated for medical applications. For research use only.

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