# Product Data Sheet

Product Name: N1-Methylpseudo-UTP (sodium salt)
Cat. No.: GB20091

## 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 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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 (m1ψ) 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/)m1ψ-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.


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