

Product Data Sheet

Product Name: Im-m7GDP sodium

Cat. No.: GC79991

Chemical Properties

Cas. No. 240137-51-3

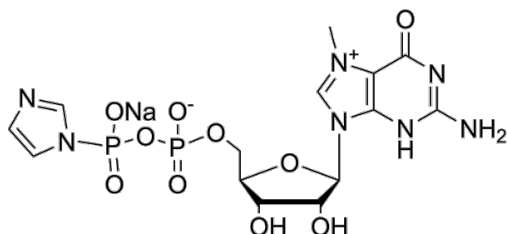
Formula $C_{14}H_{18}N_7NaO_{10}P_2$ M.Wt 529.27

Solubility H_2O : 100 mg/mL (188.94 mM; Need ultrasonic) Storage Store at $-20^{\circ}C$

General tips For obtaining a higher solubility, please warm the tube at $37^{\circ}C$ and shake it in the ultrasonic bath for a while. Stock solution can be stored below $-20^{\circ}C$ 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

Im-m7GDP sodium is a capping reagent and also the P-imidazolide of N7-methylguanosine 5'-diphosphate. Im-m7GDP sodium introduces an m7G cap structure to the monophosphate group of branched oligoribonucleotides, and is used in nucleic acid synthesis-related research [1] [2] [3].

In Vitro, Im-m7GDP (10 mM; 3 h) sodium efficiently introduces an m7G cap structure to the 5'

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

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phosphorylated branched strand of synthetic oligoribonucleotides under the specified reaction conditions^[2]. Im-m7GDP (10 mM; 3 h) sodium effectively introduces a cap structure onto 5'-monophosphorylated 68-nt chemically synthesized RNA in a cell-free in vitro reaction^[3].

References:

- [1]. Geng J, et al. Cap-related modifications of RNA regulate binding to IFIT proteins. RNA (New York, N.Y.). 2024 Sep 16;30(10):1292-1305.
- [2]. Fukuchi K, et al. Internal cap-initiated translation for efficient protein production from circular mRNA. Nature biotechnology. 2026 Jan;44(1):120-132.
- [3]. Ohashi S, et al. Selection of Short 5'-UTR of Chemically Synthesized mRNA to Improve Translation Efficiency. Chemical & pharmaceutical bulletin. 2025;73(5):449-456.

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