

Product Data Sheet

Product Name: 5-hme-CTP

Cat. No.: GB20158

Chemical Properties

Cas. No.

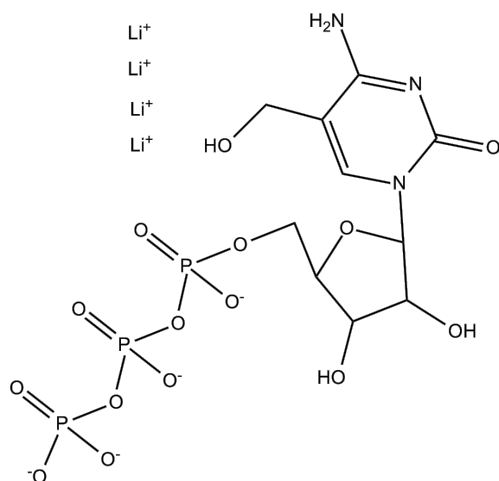
Formula $C_{10}H_{18}N_3O_{15}P_3$ (free acid) M.Wt 513.1

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

5-hme-CTP is a modified cytidine triphosphate with a hydroxymethyl group at the 5-carbon position. It can be used to replace unmodified mRNA and enhance the stability and functionality of RNA^[1]. The mRNA modification function of 5-hme-CTP has a wide range of applications in gene expression research, RNA drug development and gene therapy^[2]. 5-hme-CTP can reduce the innate immune response of human and other mammalian cells^[3, 4].

References:

[1] Fu L, Guerrero C R, Zhong N, et al. Tet-mediated formation of 5-hydroxymethylcytosine in RNA[J].

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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Journal of the American Chemical Society, 2014, 136(33): 11582-11585.

[2] Kuszczynska A, Bors M, Podskoczyj K, et al. Chemistry of installing epitranscriptomic 5-modified cytidines in RNA oligomers[J]. Organic & Biomolecular Chemistry, 2024, 22(36): 7271-7286.

[3] Lu M, Xue M, Wang H T, et al. Nonsegmented negative-sense RNA viruses utilize N 6-methyladenosine (m6A) as a common strategy to evade host innate immunity[J]. Journal of virology, 2021, 95(9): 10.1128/jvi. 01939-20.

[4] Cui L, Ma R, Cai J, et al. RNA modifications: importance in immune cell biology and related diseases[J]. Signal transduction and targeted therapy, 2022, 7(1): 334.

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