Product Data Sheet

Product Name: 7-Methylguanosine
Cat. No.: GC30531

Chemical Properties

Cas. No.	20244-86-4		
SMILES	O=C1C2=C(N=C(N1)N)N(C=[N+]2C)[C@H]3[C@@H]([C@@H]([C@H](O3)CO)O)O		
Formula	$C_{11}H_{16}N_5O_5$	M.Wt	298.27
Solubility	Water : 83.33 mg/mL (279.38 mM)	Storage	Store at -20°C
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	7-Methylguanosine		

Background

7-Methylguanosine is a methylated form of the purine nucleoside guanosine . It is an RNA modification that is present in the 5’-terminal cap of mRNA, where it promotes translation, as well as in tRNA, where it stabilizes the tRNA structure.[1,2] 7-Methylguanosine has been used as a substrate to measure the activity of purine nucleoside phosphorylase (PNP).[3] Urinary 7-methylguanosine levels are decreased in patients with prostate cancer.[1]

1.Fernández-Peralbo, M.A., Gómez-Gómez, E., Calderón-Santiago, M., et al.Prostate cancer patients-negative biopsy controls discrimination by untargeted metabolomics analysis of urine by LC-QTOF: Upstream information on other omicsSci. Rep.638243(2016) 2.Tomikawa, C.7-Methylguanosine modifications in transfer RNA (tRNA)Int. J. Mol. Sci.19(12)4080(2018) 3.Stachelska-Wierzchowska, A., and Wierzchowski, J.Non-typical nucleoside analogs as fluorescent and fluorogenic indicators of purine-nucleoside phosphorylase activity in biological samplesAnal. Chim. Acta1139119-128(2020)

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