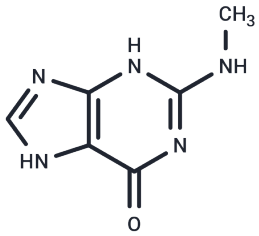
Data Sheet (Cat.No.T13791)

TargetMol

N2-methylguanine

Chemical Properties



CAS No. : 10030-78-1

Formula: C6H7N5O

Molecular Weight: 165.15

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	N2-methylguanine (N2-methylguanine) is an endogenous methylated nucleoside found in human fluids and a modified nucleoside.
Targets(IC50)	Endogenous Metabolite,Antibacterial,DNA/RNA Synthesis
In vitro	N2-methylguanine is the principal kinetic barrier for reverse transcription in the 1340 bases proximal to the 5' end of E. coli 16S rRNA. Transcription intermediates correspond to attenuation at the positions of N2-methylguanine in the rRNA sequence. The relaxation time for elongation of the cDNA through m2G is approximately 3 min[1]. N2-methylguanine is found within both helical and looped regions of RNA secondary structure, and it can exist in either the s-cis or the s-trans rotamer. If there is a rotational preference for the methyl group, the effect of N2-methylguanine substitution may be specific to the sequence context depending upon which face of the base participates in hydrogen bonding[2].

Solubility Information

Solubility	DMSO: < 1 mg/mL (insoluble or slightly soluble) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.0551 mL	30.2755 mL	60.551 mL
5 mM	1.211 mL	6.0551 mL	12.1102 mL
10 mM	0.6055 mL	3.0276 mL	6.0551 mL
50 mM	0.1211 mL	0.6055 mL	1.211 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Youvan DC, et al. Reverse transcriptase pauses at N2-methylguanine during in vitro transcription of Escherichia coli 16S ribosomal RNA. Proc Natl Acad Sci U S A. 1979 Aug;76(8):3751-4.
Rife JP, et al. N 2-methylguanosine is iso-energetic with guanosine in RNA duplexes and GNRA tetraloops. Nucleic Acids Res. 1998 Aug 15;26(16):3640-4.