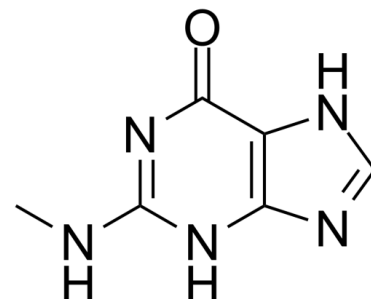


Data Sheet

Product Name:	2-(Methylamino)-1H-purin-6(7H)-one
Cat. No.:	CS-6357
CAS No.:	10030-78-1
Molecular Formula:	C ₆ H ₇ N ₅ O
Molecular Weight:	165.15
Target:	Bacterial; DNA/RNA Synthesis; Endogenous Metabolite
Pathway:	Anti-infection; Cell Cycle/DNA Damage; Metabolic Enzyme/Protease
Solubility:	Ethanol : < 1 mg/mL (ultrasonic) (insoluble); DMF : < 1 mg/mL (ultrasonic) (insoluble); DMSO : 1 mg/mL (6.06 mM; Need ultrasonic); H ₂ O : 1 mg/mL (6.06 mM; ultrasonic and warming and heat to 80°C); 1M NaOH : < 1 mg/mL (ultrasonic; adjust pH to 12 with NaOH) (insoluble); Acetone : < 1 mg/mL (ultrasonic) (insoluble); THF : < 1 mg/mL (ultrasonic) (insoluble); 0.1 M HCL : < 1 mg/mL (ultrasonic; adjust pH to 2 with HCl) (insoluble)



BIOLOGICAL ACTIVITY:

2-(Methylamino)-1H-purin-6(7H)-one (N₂-Methylguanine) is a modified nucleoside. 2-(Methylamino)-1H-purin-6(7H)-one is an endogenous methylated nucleoside found in human fluids. **In Vitro:** 2-(Methylamino)-1H-purin-6(7H)-one (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 2-(Methylamino)-1H-purin-6(7H)-one substitution may be specific to the sequence context depending upon which face of the base participates in hydrogen bonding^[1]. 2-(Methylamino)-1H-purin-6(7H)-one (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 2-(Methylamino)-1H-purin-6(7H)-one in the rRNA sequence. The relaxation time for elongation of the cDNA through m₂G is approximately 3 min^[2].

References:

[1]. 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.

[2]. 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.

CAIndexNames:

6H-Purin-6-one, 1,9-dihydro-2-(methylamino)-

SMILES:

O=C1N=C(NC)NC2=C1NC=N2

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

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