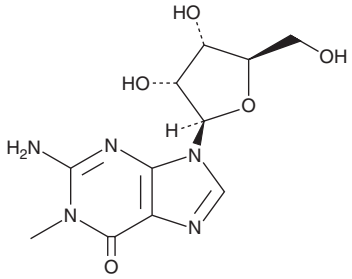
PRODUCT INFORMATION

N^1-Methylguanosine

Item No. 31737

CAS Registry No.:	2140-65-0
Formal Name:	1-methyl-guanosine
Synonyms:	1-Methylguanosine, m^1G, NSC 70897
MF:	$C_{11}H_{15}N_5O_5$
FW:	297.3
Purity:	≥95%
UV/Vis.:	λ_{max}: 257 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

N^1-Methylguanosine (m^1G) is supplied as a crystalline solid. A stock solution may be made by dissolving the m^1G in the solvent of choice, which should be purged with an inert gas. m^1G is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of m^1G in these solvents is approximately 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of m^1G can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of m^1G in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

m^1G is a methylated purine nucleoside formed during the degradation of tRNA and a biological end product.[1,2] Levels of m^1G are increased in the urine of patients with malignant tumors compared to those with benign or no tumors and have been used as biomarkers of cancer.[1,3]

References

1. Liebich, H.M., Müller-Hagedorn, S., Klaus, F., *et al.* Chromatographic, capillary electrophoretic and matrix-assisted laser desorption ionization time-of-flight mass spectrometry analysis of urinary modified nucleosides as tumor markers. *J. Chromatogr. A.* **1071(1-2)**, 271-275 (2005).
2. Mitchell, E.P., Evans, L., Schultz, P., *et al.* Modified nucleosides in human serum. *J. Chromatogr.* **581(1)**, 31-40 (1992).
3. Seidel, A., Brunner, S., Seidel, P., *et al.* Modified nucleosides: An accurate tumour marker for clinical diagnosis of cancer, early detection and therapy control. *Br. J. Cancer.* **94(11)**, 1726-1733 (2006).

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