

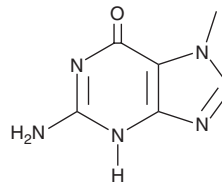
PRODUCT INFORMATION



7-Methylguanine

Item No. 18161

CAS Registry No.: 578-76-7
Formal Name: 2-amino-1,7-dihydro-7-methyl-6H-purin-6-one
Synonyms: Epiguanine, 2-Amino-7-methylhypoxanthine, N⁷-Methylguanine, NSC 193444, NSC 19647
MF: C₆H₇N₅O
FW: 165.2
Purity: ≥98%
UV/Vis.: λ_{max}: 252, 281 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

7-Methylguanine is supplied as a crystalline solid. A stock solution may be made by dissolving the 7-methylguanine in the solvent of choice, which should be purged with an inert gas. 7-Methylguanine is soluble in 1 M sodium hydroxide at a concentration of approximately 50 mg/ml.

Description

7-Methylguanine is a metabolite of the natural purine base whose N9 position is available for chemical modifications.¹ This genotoxic adduct can be generated by DNA methylation and has been used as a probe of protein-DNA interactions and for DNA sequencing methods.² It is also considered to be a carcinogenic biomarker for cigarette smoking that is detectable in urine.³

References

1. Kozma, Á., Ibjénez, S., Silaghi-Dumitrescu, R., *et al.* 7-Methylguanine: Protonation, formation of linkage isomers with *trans*-(NH₃)₂Pt(II), and base pairing properties. *Dalton Trans.* **41**, 6094-6103 (2012).
2. Lee, S., Bowman, B.R., Ueno, Y., *et al.* Synthesis and structure of duplex DNA containing the genotoxic nucleobase lesion N⁷-methylguanine. *J. Am. Chem. Soc.* **130(35)**, 11570-11571 (2008).
3. Lee, H.-L., Hsueh, Y.-M., Chung, C.-J., *et al.* Correlation between the urine profile of 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone metabolites and N⁷-methylguanine in urothelial carcinoma patients. *Cancer Epigmiol. Biomarkers Prev.* **17(12)**, 3390-3395 (2008).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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