

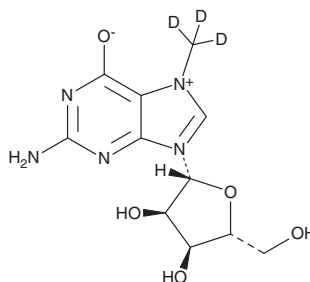
PRODUCT INFORMATION



7-Methylguanosine-d₃

Item No. 36336

Formal Name:	7-(methyl-d ₃)guanosine
Synonym:	m7G-d ₃
MF:	C ₁₁ H ₁₂ D ₃ N ₅ O ₅
FW:	300.3
Chemical Purity:	≥98% (7-Methylguanosine)
Deuterium	
Incorporation:	≥99% deuterated forms (d ₁ -d ₃); ≤1% d ₀
Supplied as:	A 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-Methylguanosine-d₃ is intended for use as an internal standard for the quantification of 7-methylguanosine (Item No. 15988) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

7-Methylguanosine-d₃ is supplied as a solid. A stock solution may be made by dissolving the 7-methylguanosine-d₃ in the solvent of choice, which should be purged with an inert gas. 7-Methylguanosine-d₃ is soluble in the organic solvent DMSO at a concentration of approximately 10 mg/ml.

Description

7-Methylguanosine is a methylated form of the purine nucleoside guanosine (Item No. 27702). 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

References

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 omics. *Sci. Rep.* **6**, 38243 (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 samples. *Anal. Chim. Acta* **1139**, 119-128 (2020).

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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