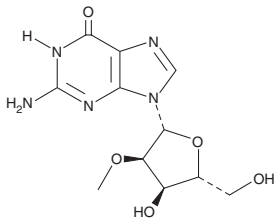
PRODUCT INFORMATION

2'-O-Methylguanosine

Item No. 21039

CAS Registry No.:	2140-71-8
Formal Name:	2'-O-methyl-guanosine
MF:	$C_{11}H_{15}N_5O_5$
FW:	297.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 253 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

2'-O-Methylguanosine is supplied as a crystalline solid. A stock solution may be made by dissolving the 2'-O-methylguanosine in the solvent of choice. 2'-O-Methylguanosine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 2'-O-methylguanosine in ethanol and DMF is approximately 0.05 mg/ml and approximately 12 mg/ml in DMSO.

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 2'-O-methylguanosine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 2'-O-methylguanosine in 0.1 M HCl is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

2'-O-Methylguanosine is a modified nucleoside that is produced in tRNAs by the action of tRNA guanosine-2'-O-methyltransferase, using S-adenosyl-L-methionine (Item Nos. 16376 | 13956) as a substrate.[1,2] Through its interaction with other modified nucleosides, 2'-O-methylguanosine is thought to stabilize the structure of the tRNA.[3] 2'-O-Methylguanosine can also be found in rRNA.[4,5] Normal and modified nucleosides, including 2'-O-methylguanosine, have been shown to be secreted by a natural suppressor cell line and induce apoptosis in K562/Molt4 target cells.[6]

References

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3. Urbonavičius, J., Duand, J.M.B., and Björk, G.R. *J. Bacteriol.* **184(19)**, 5348-5357 (2002).
4. Barciszewska, M.Z., Mashkova, T.D., and Barciszewski, J. *Biochim Biophys. Acta.* **1049(3)**, 343-345 (1990).
5. Sirum-Connolly, K. and Mason, T.L. *Nucleic Acids Symp. Ser.* **33**, 73-75 (1995).
6. Mori, T., Guo, M.W., Li, X., *et al. Biochem. Biophys. Res. Commun.* **251(2)**, 416-422 (1998).

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