

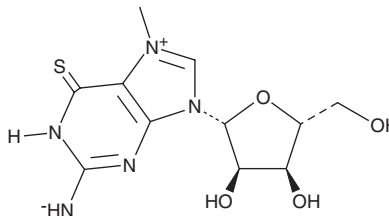
PRODUCT INFORMATION



7-methyl-6-Thioguanosine (technical grade)

Item No. 16381

CAS Registry No.: 55727-10-1
Formal Name: 2-amino-6,9-dihydro-7-methyl-9- β -D-ribofuranosyl-6-thioxo-1H-purinium, inner salt
Synonym: MESG
MF: C₁₁H₁₅N₅O₄S
FW: 313.3
Purity: \geq 85%
UV/Vis.: λ_{max} : 212, 263, 345 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 2 years



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

Laboratory Procedures

7-methyl-6-Thioguanosine (technical grade) is supplied as a crystalline solid. A stock solution may be made by dissolving the 7-methyl-6-thioguanosine (technical grade) in the solvent of choice, which should be purged with an inert gas. 7-methyl-6-Thioguanosine (technical grade) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 7-methyl-6-thioguanosine (technical grade) in these solvents is approximately 30 and 50 mg/ml, respectively.

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 7-methyl-6-thioguanosine (technical grade) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 7-methyl-6-thioguanosine (technical grade) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

7-methyl-6-Thioguanosine is a chromophoric substrate that is used to quantify inorganic phosphate (P_i). In the presence of purine nucleoside phosphorylase, it reacts with P_i to produce 7-methyl-6-thioguanine and ribose 1-phosphate, with the increase in 7-methyl-6-thioguanine followed by continuous spectrophotometry at an absorbance of 355-360 nm.¹ 7-methyl-6-Thioguanosine is also used to measure changes in P_i levels in coupled enzyme systems, including assays of the activities of protein phosphatases, phosphorylase kinases, GTPases, and ATPases.¹⁻⁴

References

1. Webb, M.R. A continuous spectrophotometric assay for inorganic phosphate and for measuring phosphate release kinetics in biological systems. *Proc. Natl. Acad. Sci. USA* **89(11)**, 4884-4887 (1992).
2. Cheng, Q., Wang, Z.X., and Killilea, S.D. A continuous spectrophotometric assay for protein phosphatases. *Anal. Biochem.* **310(2)**, 156-162 (2002).
3. Wang, Z.X., Cheng, Q., and Killilea, S.D. A continuous spectrophotometric assay for phosphorylase kinase. *Anal. Biochem.* **230(1)**, 55-61 (1995).
4. Tan, Y.C., Wu, W.N., Zheng, Y., et al. Characterization of the interactions between the small GTPase RhoA and its guanine nucleotide exchange factors. *Anal. Biochem.* **310(2)**, 156-162 (2014).

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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