

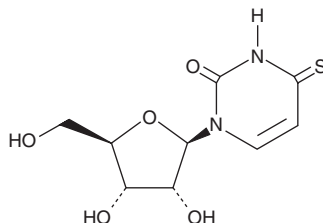
PRODUCT INFORMATION



4-Thiouridine

Item No. 16373

CAS Registry No.: 13957-31-8
Formal Name: 4-thio-uridine
Synonyms: NSC 518132, 4-SU
MF: C₉H₁₂N₂O₅S
FW: 260.3
Purity: ≥98%
UV/Vis.: λ_{max}: 249, 330 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

4-Thiouridine (4-SU) is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-SU in the solvent of choice, which should be purged with an inert gas. 4-SU is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 4-SU in ethanol is approximately 2 mg/ml and approximately 10 mg/ml in DMSO and DMF.

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 4-SU can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 4-SU PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

4-SU is a photoactivatable ribonucleoside analog that is widely used for RNA analysis, including short-range RNA-RNA crosslinking and nascent RNA labeling.¹⁻³ The crosslinking thio moiety is attached directly to the nucleotide base, thus 4-SU differs from uridine only by a single sulfur substitution. This offers the advantage of incorporating into an RNA chain with minimal structural perturbation and with similar base-pairing properties, reducing the likelihood that substitution will impair RNA interactions or activities.³

References

1. Burger, K., Mühl, B., Kellner, M., *et al.* 4-Thiouridine inhibits rRNA synthesis and causes a nucleolar stress response. *RNA Biol.* **10(10)**, 1623-1630 (2013).
2. Thomas, G. and Favre, A. 4-Thiouridine triggers both growth delay induced by near-ultraviolet light and photoprotection. *Eur. J. Biochem.* **113(1)**, 67-74 (1980).
3. Harris, M.E. and Christian, E.L. RNA crosslinking methods. *Methods Enzymol.* **468**, 127-146 (2009).

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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