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%
Stability: ≥ 2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_max: 249, 330 nm

Laboratory Procedures
For long term storage, we suggest that 4-thiouridine (4-SU) be stored as supplied at -20°C. It should be stable for at least two years.
4-SU is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-SU in the solvent of choice. 4-SU is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. 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 in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.
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

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