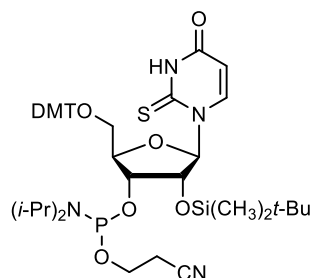


## 2-Thiouridine CEP

### Product No. BA 0415

#### *Product Information*



C<sub>45</sub>H<sub>61</sub>N<sub>4</sub>O<sub>8</sub>PSSi  
Mol. Wt.: 877.12

The effect of 2-thiouridine on sugar conformation and RNA duplex thermodynamics has been well documented.<sup>1,2</sup> The presence of the 2-sulfur modification stabilizes the 3'-endo sugar conformation at the nucleoside and nucleotide level.<sup>1</sup> Wobble base pair specificity can also be improved by substituting 2-thiouridine for uridine. Testa and co-workers<sup>2</sup> have shown that S<sup>2</sup>U favors S<sup>2</sup>U-A pairing more than S<sup>2</sup>U-G pairing, and more than U favors U-A relative to U-G. The sulfur modification improves specificity while retaining other key uridine activities.

In addition, thiolated uridine has been shown to improve the rate and fidelity of both nonenzymatic<sup>3</sup> and ribozyme<sup>4</sup> catalyzed nucleotide addition in RNA synthesis. Our 2-Thiouridine CEP (BA 0415) allows for the efficient insertion of 2-thiouridine into oligonucleotides.

**Use:** Dissolve the phosphoramidite in acetonitrile at concentrations recommended by the synthesizer manufacturer. Coupling should be carried out using standard instrument RNA protocols. Improved yields may be obtained with a modified oxidation protocol.<sup>1,5</sup> Cleavage from the solid support can be carried out under standard conditions, and best results are obtained when deprotection is done overnight at room temperature with ammonium hydroxide.

## References:

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