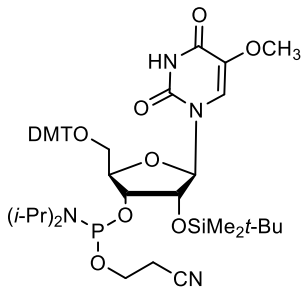
5-Methoxyuridine CEP

Product No. BA 0418

Product Information



$C_{46}H_{63}N_4O_{10}PSi$
Mol. Wt.: 891.09

There is a growing body of research on the use of base modified nucleosides in mRNA. By virtue of an extended half-life, base modifications in mRNA have the ability to increase the expression of proteins which holds promise for the field of mRNA therapeutics. The extended half-life of modified mRNA can be explained by both slower metabolic degradation and lower antigenicity.[1-3] The incorporation of pseudouridine, 1-methyl-pseudouridine and 5-methoxyuridine has been found to have notable effects in enhancing protein expression. In fact, 5-methoxyuridine modified mRNA coding for green fluorescent protein was more stable than the analogous mRNA modified with either pseudouridine or N^1-methyl pseudouridine.[4]

Use: Dissolve the phosphoramidite in acetonitrile at concentrations recommended by the synthesizer manufacturer. Coupling should be carried out using standard instrument RNA protocols. Cleavage from the solid support can be carried out under standard conditions, and standard deprotection conditions may be employed.

References:

1. Weissman, D. *Expert Rev Vaccines* **2015**, *14*, 265-81.
2. Andries, O.; McCafferty, S.; De Smedt, S.C.; Weiss, R.; Sanders, N.N.; Kitada, T. *J Control Release* **2015**, *217*, 337-44.
3. Kariko K.; Muramatsu H.; Welsh F.A.; Ludwig J.; Kato H.; Akira S.; Weissman D. *Mol Ther* **2008**, *16(11),* 1833-40
4. Li, B.; Luo, X.; Dong, Y. *Bioconjugate Chem* **2016**, *27*, 849−853.