5-Aminoallyl-U CEP Product No. BA 0269

Product Information

$$\begin{array}{c|c} & & & \\ & & & \\ \text{DMT-O} & & & \\ & & & \\ \hline \text{OMT-O} & & \\ & & & \\ \hline \text{ON} & & \\ & & & \\ \hline \text{OSiMe}_2 t\text{-Bu} \\ \hline \text{OCN} & & \\ & & \\ \hline \text{CsoH}_{65} F_3 N_5 O_{10} PSi \\ & & \\ & & \\ \text{Mol. Wt.: } 1012.13 \\ \end{array}$$

Allows the introduction of a 5-aminoallyluridine residue into oligonucleotides for the purpose of post-synthetic labeling by acylation.

To our knowledge, 5-Aminoallyl-U CEP (BA 0269) does not appear in the literature. However, the 2'-deoxyribo version (5-Aminoallyl-dU CEP) is known^{1,2} and is also offered by Berry & Associates (see Product Number BA 0311). It should be noted that the 2'-deoxy version is useful not only in amine modification, but in triplex-forming oligonucleotides (TFOs) that are similar in stability to those bearing unmodified residues.²

Use: Acetonitrile diluent at the concentration recommended by the synthesizer manufacturer was employed. A standard coupling time (12 minutes for an Expedite synthesizer) was sufficient to obtain high yields. Cleavage from the solid support was carried out with 3:1 concentrated ammonium hydroxide: ethanol using standard procedures. Nucleobase deprotection and trifluoroacetyl removal were carried out by heating the cleavage solution at 55 °C for 16-18 h.

Literature:

- 1. Early work on the introduction of a 5-aminoallyl-dU amino modifier into oligonucleotides involved the methyl phosphoramidite. ^{1a} 5-Aminoallyl-dU CEP (our BA 0311), employing a 2-cyanoethyl phosphoramidite, was reported later. ^{1b} See: (a) Cook, A. F.; Vuocolo, E.; Brakel, C. L. *Nucleic Acids Res.* **1988**, *16*, 4077-4095. (b) Lermer, L.; Yoann, R.; Ting, R.; Perrin, D. M. *J. Am. Chem. Soc.* **2002**, *124*, 9960-9961. See especially the Supporting Information.
- 2. Brazier, J. A.; Shibata, T.; Townsley, J.; Taylor, B. F.; Frary, E.; Williams, N. H.; Williams, D. M. *Nucl. Acids Res.* **2005**, *33*, 1362-1371.