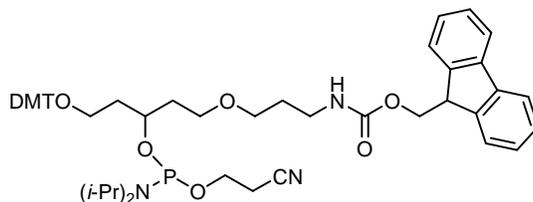


Fmoc-amino-modifier III CEP (BA 0335)

Product Information



C₅₃H₆₄N₃O₈P
Mol. Wt. 902.06

For installation of an Fmoc protected amino group internally or at the 5'-end of an oligonucleotide.

The (fluorenylmethyl)carbamoyl (Fmoc) group has been shown to be useful as such an amine protecting group for amine modification of oligonucleotides.¹ It is removed during cleavage/deprotection with ammonium hydroxide. Alternatively, the Fmoc group can be removed before cleavage of the oligonucleotide from the solid support,² simplifying the acylation process. After the acylation is complete, the labeled oligonucleotide can then be cleaved from the support and further deprotected with ammonium hydroxide.

Our new Fmoc-amino Modifier III contains a 1,3,5-triol framework. This extended framework serves two functions. First, extended framework disfavors cyclic phosphate formation when the DMT group is removed, thereby minimizing loss of the amine modification. Second, the 1,3,5-triol framework maintains the natural 3-carbon atom internucleotide phosphate distance.¹

Berry & Associates also offers a version of such an Fmoc-protected amino-modifier for installation of an amino group at the 3'-terminus, i.e., 3'-Fmoc-amino-modifier CPG, in both higher- and lower-loaded versions, namely BA 0299 (500 Å CPG) and BA 0307 (1000 Å CPG). It features a 7-atom spacer between the amino group and the O-DMT group.

Use: Standard DNA synthesis protocols were used with concentration and coupling times as recommended by the manufacturer. Standard cleavage and deprotection conditions may be employed. In our hands, 2 hours at 65 °C was required for complete deprotection.

1. Nelson, P. S.; Kent, M.; Muthini, S. *Nucl. Acids Res.* **1992**, *20*, 6253-6259.
2. (a) Gartner, Z. J.; Kanan, M. W.; Liu, D. R. *J. Am. Chem. Soc.* **2002**, *124*, 10304-10306; see Supporting Information, p. 3. (b) Gartner, Z. J.; Tse, B. N.; Grubina, R.; Doyon, J. B.; Snyder, T. M.; Liu, D. R. *Science* **2004**, *305*, 1601-1605; see Supporting Online Material, p. 2.