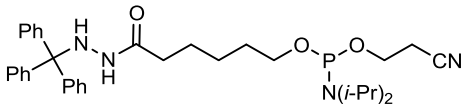
5′-Hydrazide-modifier-6 CEP
Product No. BA 0384

Product Information



$C_{34}H_{45}N_4O_3P$
Mol. Wt.: 588.72

Modification of oligonucleotides via covalent attachment chemistry is a valuable tool in molecular biology and bioengineering among other fields. Multiple strategies exist for attaching reporters or enabling surface immobilization. In addition to our amino modifier phosphoramidites commonly employed for these purposes, we offer 5'-Hydrazide-modifier-6 CEP[1] (BA 0384) as an additional covalent attachment tool. Whereas the amino modifiers utilize active esters under basic conditions, or Schiff base formation followed by reduction, the hydrazide modification allows reaction with aldehydes under neutral to slightly acidic conditions. This reaction is fast, high yielding and suitable for cell culture experiments. The resultant hydrazone does not require a reduction step to ensure stability. Hydrazide containing phosphoramidites can be incorporated into oligonucleotides using standard protocol and reagents, and the trityl protecting group can be easily removed with acetic acid.[1a]

Use: Dissolve the CEP 2 parts dichloromethane followed by 1 part acetonitrile at concentrations recommended by the synthesizer manufacturer. Coupling should be carried out using standard instrument protocols. On our Expedite 8909, highest coupling efficiencies and yields were obtained with extended coupling times. Cleavage from the solid support can be carried out using ammonium hydroxide at room temperature, and nucleobase deprotection should be done at 65 ^{o}C for no more than 2 hours. We do not recommend deprotection at 55 ^{o}C overnight.

(1) a) Raddatz, S.; Mueller-Ibeler, J.; Kluge, J.; Wab, L.; Burdinski, G.; Havens, J. R.; Onofrey, T. J.; Wang, D.; Schweitzer, M. *Nucleic Acids Research*, **2002**, *30* (21) 4793-4802. b) Antsypovich, S. I.; Oretskaya, T. S.; von Kiedrowski, G.; *Rus. Chem. Bull. Int. Ed.* **2005**, *54*, 2671-2681.