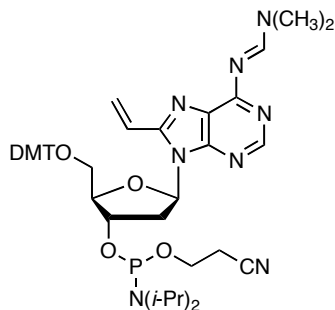


8-Vinyl-dA CEP (BA 0278)

Product Information



This phosphoramidite has been used to incorporate fluorescent 8-vinyl-deoxyadenosine (8vdA) residues into oligonucleotides and has been proposed as an alternative to 2'-deoxyribofuranosyl-2-aminopurine (2AP).¹ The 8vdA-labeled oligonucleotides form more stable duplexes than 2AP-labeled versions when flanked by dA or T residues. The fluorescence quantum yield of 8vdA-labeled oligonucleotides is significantly higher than the 2AP versions.

Use: According to Ben Gaied and coworkers,¹ UltraMILD phosphoramidites (Pac-dA, *i*-Pr-Pac-dG, and Ac-dC) should be used along with dichloroacetic acid deblock (rather than trichloroacetic acid), phenoxyacetic anhydride (Pac₂O) as Cap A, and phosphite oxidation with 2-butanone peroxide (ethylmethyldioxirane) in CH₂Cl₂ (0.1 M). A coupling time of 35 s for the 8-vinyl-dA phosphoramidite is recommended for an ABI 392 synthesizer. Cleavage from the support and nucleobase deprotection was achieved with concentrated ammonium hydroxide for 4 h at rt. Longer deprotection times were proposed to result in addition of ammonia to the vinyl moiety. Methanolic potassium carbonate should be avoided.

In our hands, dilution in acetonitrile and standard coupling times as recommended for an Expedite 8909 synthesizer were successful in incorporating 8-vinyl-dA into an oligonucleotide.

(1) Ben Gaied, N.; Glasser, N.; Ramalanjaona, N.; Beltz, H.; Wolff, P.; Marquet, R.; Burger, A.; Mely, Y. *Nucl. Acids Res.* **2005**, 33, 1031-1039.