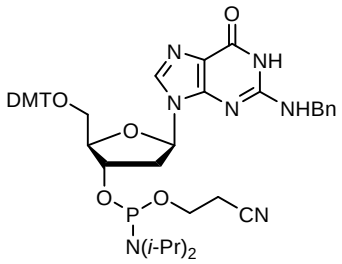
N^2-Benzyl-dG CEP (BA 0337)

Product Information



$C_{47}H_{54}N_7O_7P$
Mol. Wt. 859.95

Guanine bases in DNA are susceptible to *N*-alkylation by various carcinogens, leading to miscoding and mutagenicity. Choi and Guengerich have prepared a series of N^2-alkyl-2'-deoxyguanosine phosphoramidites where the alkyl group ranges in size from methyl to anthracenylmethyl for studies on the effect of the size of these groups on the catalytic efficiency and fidelity of various DNA polymerases.[1] In addition to BA 0337, we offer the N^2-methyl- (BA 0249), N^2-ethyl- (BA 0076), and N^2-isobutyl-dG (BA 0250) phosphoramidites[1] as well an additional bulkier choice, the N^2-neopentyl version (BA 0200). Researchers may find this "steric tool box" useful for probing the steric requirements at N^2 of dG in various applications.

Use: According to Choi and Guengerich,[1] standard DNA synthesis protocols were used. In our hands, *the phosphoramidite was not very soluble in acetonitrile* and was thus fully dissolved by adding 2 parts of dichloromethane followed by 1 part of acetonitrile to achieve the standard dilution factor as recommended by the instrument manufacturer. The order of solvent addition is important; dissolution in dichloromethane should be first. Once dissolved, standard instrument protocols were used for coupling.

(1) Choi, J.-Y.; Guengerich, F. P. *J. Biol. Chem*. **2004**, *279* , 19217-19229.