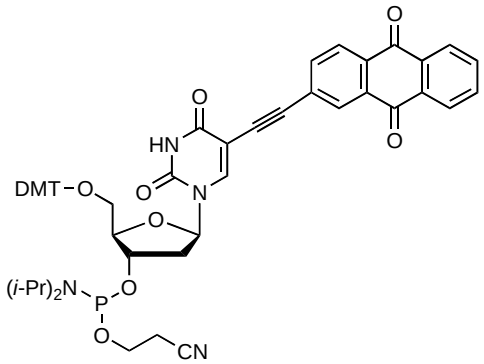
Anthraquinone-5-ethynyl-dU CEP
Product No. BA 0309
Product Information



$C_{55}H_{53}N_4O_{10}P$
Mol. Wt.: 961.00

Anthraquinones may be incorporated into oligonucleotides by a variety of methods using a host of different phosphoramidites. The anthraquinone moiety is useful for applications such as intercalation, duplex and triplex stabilization, photochemical immobilization, quenching of fluorescence, electrochemical detection, and charge transport through nucleic acids. Barton and co-workers[1] have studied the importance of the tether in electronic coupling of the anthraquinone to the DNA. Connection of the anthraquinone moiety to the nucleobase of 2'-deoxyuridine via an ethynyl group provides an electronic coupling to the nucleobase π-stack. Such nucleotides were made by incorporation of a 5-ethynyl-dU nucleotide using 5-Ethynyl-dU CEP (BA 0167) followed by a post-synthetic palladium-catalyzed Sonogashira coupling with 2-iodoanthraquinone.[1] *For the direct incorporation of an ethynyl-dU-linked anthraquinone into an oligonucleotide, Anthraquinone-5-ethynyl-dU CEP (BA 0309) may be used, avoiding post-synthetic palladium couplings.*

Use: Employ acetonitrile diluent at the concentration recommended by the synthesizer manufacturer. Use standard coupling protocols; extended coupling times are not required. Cleavage from the solid support and nucleobase deprotection with concentrated ammonium hydroxide may be carried out using standard protocols, e.g., 55 °C for 8-16 h or 65 °C for 4 h. Barton and co-workers have also found AMA (1:1 40% aqueous methylamine : concentrated ammonium hydroxide) for 20 min at 60 °C to be useful.[1] For HPLC, the ethynyl-dU-linked anthraquinone moiety can be observed at 324 or 394 nm.[1]

Literature

1. Gorodetsky, A. A.; Green, O.; Yavin, E.; Barton, J. K. *Bioconjugate Chem*. **2007**, *18*, 1434-1441.