

## DBCO-Serinol phosphoramidite

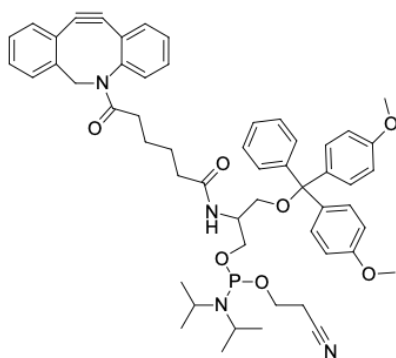
<http://www.lumiprobe.com/p/dbco-serinol-phosphoramidite>

Incorporation of DBCO-Serinol at a defined position within the oligonucleotide chain yields a reactive alkyne group ready for highly selective, bioorthogonal conjugation with azide-bearing molecules via strain-promoted azide-alkyne cycloaddition (SPAAC). Because this reaction does not require copper catalysts, it can be performed under mild conditions, including in the presence of living cells or sensitive biomacromolecules.

The modified oligonucleotides can be conjugated with fluorophores, biotin, peptides, polymers, nanoparticles, and other partners. This enables the preparation of probes for hybridization-based assays (FISH, microarrays), aptamers, delivery conjugates, and DNA nanostructures.

## Recommendations for using the reagent:

During synthesis, it is important to replace the standard iodine oxidation with an alternative oxidizer (CSO), as the DBCO group is sensitive to iodine; otherwise, the reagent is compatible with standard solid-phase synthesis protocols and subsequent purification by HPLC or PAGE.



**Structure of DBCO-Serinol phosphoramidite**

### General properties

Appearance:	beige powder
Molecular weight:	909.08
Molecular formula:	C <sub>54</sub> H <sub>61</sub> N <sub>4</sub> O <sub>7</sub> P
Solubility:	acetonitrile, dichloromethane, DMSO, DMF
Quality control:	NMR <sup>1</sup> H and <sup>31</sup> P, (95 %+), HPLC-MS (90 %)
Storage conditions:	12 months after receipt at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Avoid prolonged exposure to light. Desiccate.
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### Oligo synthesis details

Diluent:	Anhydrous acetonitrile
Coupling conditions:	10-12 minutes at room temperature
Deprotection conditions:	stable to deprotection with ammonium hydroxide for 2 hours at 65 °C or overnight at room temperature. Compatible with AMA for deprotection, showing only slight degradation of the cyclooctyne after 2 hours. Oxidation: for oxidation step recommended to use 0.5 M CSO in anhydrous acetonitrile, iodine oxidation is suitable to no more than 8-10 cycles.