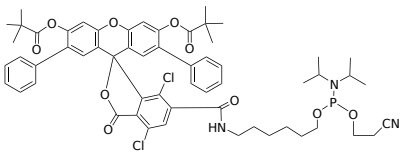
6-SIMA phosphoramidite

Catalog Number: 6052
Unit Size: 100 umoles

Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

Chemical Properties

Appearance	Solid
Molecular Weight	1065.02
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	N/A
Emission Wavelength	N/A

Applications

6-SIMA phosphoramidite is widely used in oligonucleotide synthesis to create fluorescently labeled primers and hybridization probes for quantitative PCR.

SIMA, or Dichloro-diphenyl-fluorescein (HEX), is a xanthene dye with spectral characteristics analogous to HEX but with a higher quantum yield and improved chemical stability under basic deprotection conditions. Unlike HEX, SIMA (HEX) demonstrates exceptional stability when subjected to ammonium hydroxide at elevated temperatures or to AMA (a 1:1 mixture of concentrated aqueous ammonium hydroxide and 40% aqueous methylamine) at room temperature or 65°C for 10 minutes.

At neutral pH (pH 7), SIMA (HEX) exhibits a minor 3 nm blue shift in its absorption maximum relative to HEX. Although the absorption band is slightly broader, leading to a modest reduction in the extinction coefficient, SIMA (HEX) retains high fluorescence efficiency. When normalized and excited at 500 nm, its emission intensity reaches 90% of that of HEX, with a 5 nm red-shifted emission peak, providing subtle but significant spectral differentiation.