

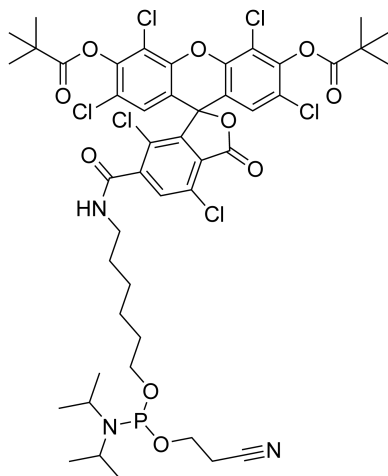
## HEX phosphoramidite, 6-isomer

<http://www.lumiprobe.com/p/hex-phosphoramidite-6>

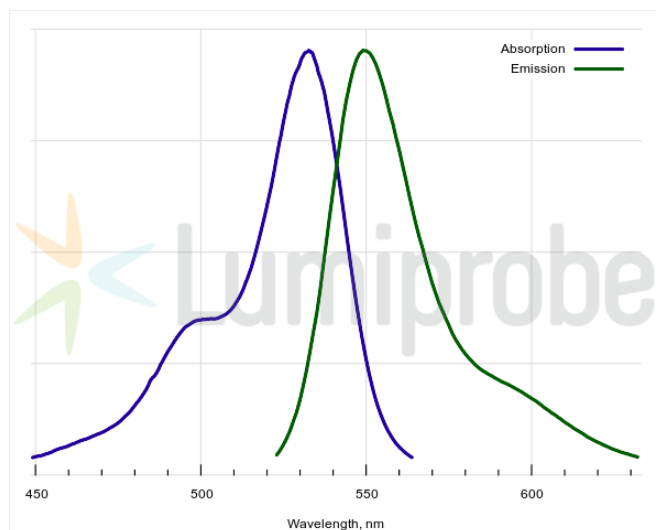
HEX phosphoramidite for oligonucleotide synthesis, pure 6-isomer.

HEX (hexachlorofluorescein) is a fluorescein derivative with emission in the yellow spectrum range (absorption maximum at 533 nm, emission maximum at 549 nm).

HEX phosphoramidite is used for synthesis of fluorescent-labeled primers and hybridization probes such as TaqMan, Molecular Beacon, and Scorpion for qPCR. HEX is most effectively quenched by non-fluorescent DusQ 1 dark quencher because of significant overlapping of their spectra (convenient for use with [DusQ 1 CPG 500](#) solid support with a pore size of 500 Å). Many automated sequencers based on capillary gel electrophoresis have a detection channel for HEX. Therefore, this phosphoramidite is commonly used for synthesis of 5'-labeled oligonucleotides for fragment analysis, particularly for microsatellite analysis, when microsatellite loci are amplified using a fluorescent-labeled forward primer and a non-labeled reverse primer.



**Structure of HEX phosphoramidite, 6-isomer**



**Absorption and emission spectra of HEX**

### General properties

Appearance:	off white solid
Molecular weight:	1050.61
CAS number:	1360547-55-2
Molecular formula:	C <sub>46</sub> H <sub>52</sub> N <sub>3</sub> Cl <sub>6</sub> O <sub>10</sub> P
Solubility:	good solubility in acetonitrile and DCM
Quality control:	NMR <sup>1</sup> H and HPLC-MS (95+%), functional testing
Storage conditions:	Storage: 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.
Legal statement:	This Product is offered and sold for research purposes only. It has not been tested for safety and efficacy in food, drug, medical device, cosmetic, commercial or any other use. Supply does not express or imply authorization to use for any other purpose, including, without limitation, in vitro diagnostic purposes, in the manufacture of food or pharmaceutical products, in medical devices or in cosmetic products.

### Spectral properties

Excitation/absorption maximum, nm:	533
ε, L·mol <sup>-1</sup> ·cm <sup>-1</sup> :	87770
Emission maximum, nm:	549

Fluorescence quantum yield:	0.57
CF <sub>260</sub> :	0.30
CF <sub>280</sub> :	0.13

### **Oligo synthesis details**

Diluent:	anhydrous acetonitrile (prepare a 0.1 M solution, storage 1 week).
Coupling conditions:	coupling time 3 min
Deprotection conditions:	Standard conditions using 25% ammonium; deprotection time depends on oligonucleotide composition and nucleobase protecting groups (deprotection for 17 h at 55 °C removes all protecting groups from standard nucleobases). AMA (solution of concentrated aqueous ammonium/40% aqueous methylamine 1:1 v/v) can be used with ~5% of non-fluorescent side product forming. To avoid formation of the side product, start deprotection with ammonium hydroxide (30 min at room temperature), then add an equal volume of 40% aqueous methylamine and continue deprotection as required with AMA (e.g. 10 min at 65 °C).