Lumiprobe Corporation
115 Airport Dr Suite 160
Westminster, Maryland 21157
USA
Phone: +1 888 973 6353
Fax: +1 888 973 6354
Email: order@lumiprobe.com

Cyanine3 phosphoramidite

http://www.lumiprobe.com/p/cy3-phosphoramidite-5

Cyanine3 is a fluorophore that is widely used in molecular biology experiments such as oligonucleotide labeling followed by oligonucleotide detection. By its spectral characteristics, Cyanine3 is a dye with a fluorescence maximum at 570 nm in the yellow spectrum range.

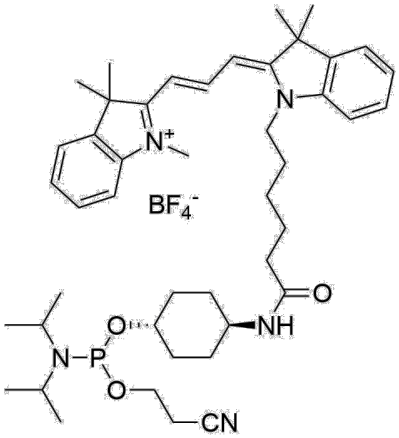
Cyanine3 phosphoramidite 5’ is used in oligonucleotide synthesis for the production of 5’-cyanine3-labeled oligonucleotides. The reagent is compatible with various oligonucleotide synthesizers.

This phosphoramidite can be used for the synthesis of fluorescence-labeled primers and hybridization probes such as TaqMan and Molecular Beacon. Such labeled probes can be detected in multiplex real-time PCR in the TAMRA channel.

Usage:

Condensation: 3 min. Use 0.02 M iodine solution at the oxidation step to avoid degradation of the cyanine dye.

Deprotection: At room temperature with 30% aqueous ammonium solution. It is recommended to use nucleic bases with labile protective groups for deprotection for not more than 2 h at less than 55°C. AMA (30% aqueous ammonium solution/40% aqueous methylamine 1:1 (v/v)) can be used for 10 min at 65°C in the presence of acetyldeoxycytidine. If deoxyguanidine with a dimethylformamidine protective group is used during synthesis, deprotect with 30% aqueous ammonium solution for 2 h at 65°C. If deoxyguanidine with an isobutyryl protective group is used during synthesis, deprotect for 24-36 h at room temperature.



Structure of Cyanine3 phosphoramidite

General properties

Appearance:	red powder
Molecular weight:	841.81
Molecular formula:	$C_{45}H_{65}N_5BF_4O_3P$
Solubility:	good in acetonitrile, dichloromethane
Quality control:	NMR ^{1}H, ^{31}P, HPLC-MS (80%)
Storage conditions:	Storage: 12 months after receival 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:	555
ε, $L \cdot mol^{-1} \cdot cm^{-1}$:	150000
Emission maximum, nm:	570
Fluorescence quantum yield:	0.31
CF_{260}:	0.04
CF_{280}:	0.09

Oligo synthesis details

Diluent:	acetonitrile
Coupling conditions:	6 min coupling time recommended
Deprotection conditions:	recommended 48 h at +4°C or ultramild protective groups; 24 h at rt possible