

FAM-11-dCTP, 6-isomer

<http://www.lumiprobe.com/p/fam-11-dctp-6>

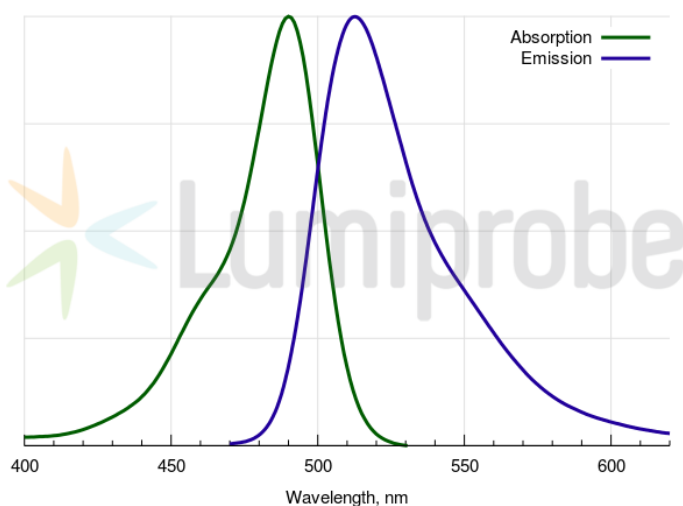
6-fluorescein (FAM) derivative of deoxycytidine triphosphate (dCTP).

FAM 6-isomer is a common fluorophore used for labeling biomolecules; FAM has a high quantum yield and bright green emission.

FAM-11-dCTP can be used for enzymatic DNA labeling via Nick-translation, 3'-end labeling, random primed labeling, PCR, or cDNA synthesis. FAM-11-dCTP is incorporated into the growing DNA chain by Taq-polymerase, DNA-polymerase I, Phi 29 polymerase, Klenow fragment, reverse transcriptase, or terminal transferase.

The linker length (11 carbon atoms) is optimal for the efficient incorporation of fluorescently-labeled dCTP into the growing DNA chain.

Labeled DNA can be used for FISH experiments, microarray gene profiling, Southern blot, and Northern blot.



Absorption and emission spectra of FAM

General properties

Appearance: yellow to orange solid
Molecular weight: 1012.5
Molecular formula: $C_{23}H_{26}N_5Li_3O_{10}P_3$
IUPAC name: ((2R,3S,5R)-5-(4-amino-5-(3-(6-(3-carboxy-4-(6-hydroxy-3-oxo-3H-xanthen-9-yl)benzamido)hexanamido)prop-1-yn-1-yl)-2-oxo-3,4-dihydropyrimidin-1(2H)-yl)-3-hydroxytetrahydrofuran-2-yl)methyl hydrogen triphosphate
Solubility: good in water
Quality control: HPLC-MS (95%), testing in enzymatic reaction
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 and excessive freeze-thaw cycles.

Spectral properties

Excitation/absorption maximum, nm: 490
 ϵ , L·mol⁻¹·cm⁻¹: 80000
Emission maximum, nm: 513
Fluorescence quantum yield: 0.93
 CF_{280} : 0.20
 CF_{280} : 0.17