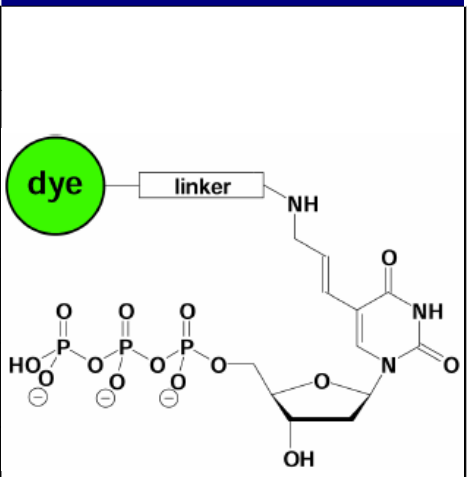
FT-CD061

FluoProbes-dUTP, PCR grade

Product Information

Fluorescent labeled aminoallyl-dUTP for DNA labeling by PCR

Product name cat.number	$\lambda_{exc}\backslash\lambda_{em}$ max. (nm)	mol. abs. ($M^{-1}cm^{-1}$)	Structure
FluoProbes 425A-dUTP FP-CD0600, 10µl (1mM) FP-CD0601, 50µl (1mM)	436 / 484	45 000	
FluoProbes 488-dUTP FP-CD0610, 10µl (1mM) FP-CD0611, 50µl (1mM)	493 / 517	90 000	
FluoProbes 550A-dUTP FP-CD0620, 10µl (1mM) FP-CD0621, 50µl (1mM)	554 / 576	120 000	
FluoProbes SR101-dUTP FP- CE8100, 10µl (1mM) FP- CE8101, 50µl (1mM)	583 / 603	112 000	
FluoProbes 590A-dUTP FP-CD0630, 10µl (1mM) FP-CD0631, 50µl (1mM)	594 / 624	120 000	
FluoProbes 647N-dUTP FP-CD0590, 10µl (1mM) FP-CD0591, 50µl (1mM)	644 / 669	150 000	
FluoProbes 655A-dUTP FP-CD0640, 10µl (1mM) FP-CD0641, 50µl (1mM)	663 / 684	120 000	

Storage: –20°C (1 year)
Protect from light and moisture. Avoid repeat thawing and freezing.

Introduction

FluoProbes dUTP-PCR grade is recommended for direct enzymatic labeling of DNA. The dye-dUTP is specially optimized for incorporation into DNA by PCR using DNA polymerase. The excellent stability and quantum yield of the FluoProbes combined with a high incorporation rate of the dye-dUTP complex makes it the ideal choice for a broad range of DNA labeling applications.

In PCR labeling, repeated cycles of denaturation, annealing and extension allow the amplification of a specific DNA fragment. The target DNA is denatured by heating followed by annealing of primers. Extension of the annealed primers with DNA polymerase results in a duplication of the DNA fragment in each cycle. When dTTP is partially substituted by dye-dUTP a fluorescent labeled double stranded DNA is generated.
The resultant DNA is suited for application in FISH, microarray gene expression profiling and other nucleic acid hybridization assays.

Protect fluorescent labeled dUTP from light and carry out experimental procedures in low light conditions.

Directions for use

Protocol

Recommended PCR assay

20 µl PCR labeling assay		
Amount	**Final concentration**	**Component**
2 µl	1X	10x High yield buffer without $MgCl_2$
1.6 µl	2 mM	MgCl2 stock sol. (25 mM)
2 µl	100 µM	dATP (1mM)
2 µl	100 µM	dCTP (1mM)
2 µl	100 µM	dGTP (1mM)
1.5 µl	75 µM	dTTP (1mM)
0.5 µl	25 µM	FluoProbes-dUTP (1mM)
1 µl	500 nM	forward Primer (10 µM)
1 µl	500 nM	reverse Primer (10 µM)
0.1-10 ng	5-500 pg/µl	Template DNA
0.2 µl (1 unit)	0.05 units/µl	DNA Pol / high yield buffer
Fill up to 20 µl		PCR grade H_2O

Recommended cycling conditions

Initial denaturation	94°C	2 min	1x
Denaturation	94°C	30 sec	25-30x
Annealing [1]	50-60°C	30 sec	
Elongation [2]	72°C	1 min	
Final elongation	72°C	5 min	1x

1) The annealing temperature depends on the melting temperature of the primers used.
2) The elongation time depends on the length of the fragments to be amplified. A time of 2 min/kbp is recommended.

For optimal amplification results and high incorporation rates an individual optimization of the recommended PCR assay and cycling conditions may be necessary for each new primer-template pair.

Related products

- UptiTherm Polymerase, UPS53921, 1000 tests
- dNTP set 1, UP968640, 4 x 250 µl
- 100pb DNA ladder, UPS54811, 50 µg
- FluoProbes-dUTP Nick Translation grade

Ordering information

Catalog size quantities and prices may be found at http://www.fluoprobes.com
Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : FluoProbes® / Interchim; Hotline : +33(0)4 70 03 73 06