

Biotin-dUTP-PCR

Non-fluorescently labeled aminoallyl-dUTP

DNA labeling and modification

Cat.-No.	Amount	Conc.
PP-304S-BIO	20 µl	1 mM
PP-304L-BIO	100 µl	1 mM

For *in vitro* use only

Quality guaranteed for 12 months

Store at -20 °C, avoid frequent thawing and freezing

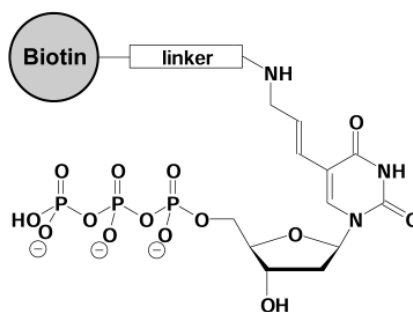
Description

Biotin-dUTP-PCR is recommended for direct enzymatic labeling of DNA. The labeled-dUTP is specially optimized for incorporation into DNA by a wide variety of DNA polymerases. Recommended labeling methods include PCR, DOP-PCR, Nick Translation, 3'-end labeling and RT-PCR.

In PCR labeling, repeated cycles of denaturation, annealing and extension allow the amplification of a specific DNA fragment. Extension of the annealed primers with Taq polymerase results in a duplication of the DNA fragment in each cycle. When dTTP is partially substituted by Biotin-dUTP a Biotin labeled double-stranded DNA is generated.

The resultant DNA is suited for a variety of hybridization experiments, including Southern and Northern blots, colony hybridizations and *in situ* hybridizations.

Structure



Biotin-dUTP, Biotin is attached via an optimized linker to aminoallyl-dUTP

Biotin-dUTP-PCR

5-(3-aminoallyl)-2'-deoxy-uridine-5'-triphosphate
labeled with Biotin, triethylammonium salt, pH 7.5

Purity

>95%

Recommended PCR assay

20 µl PCR labeling assay			
Component	Stock conc.	Amount	Final conc.
High yield buffer without MgCl ₂ (Cat.-No. PCR-201)	10x	2 µl	1x
MgCl ₂ stock solution	25 mM	1.6 µl	2 mM
dATP	1 mM	2 µl	100 µM
dCTP	1 mM	2 µl	100 µM
dGTP	1 mM	2 µl	100 µM
dTTP	1 mM	1 µl	50 µM
Biotin-dUTP-PCR	1 mM	1 µl ¹⁾	50 µM ¹⁾
forward Primer	10 µM	1 µl	500 nM
reverse Primer	10 µM	1 µl	500 nM
Template DNA		0.1-10 ng	5-500 pg/µl
Taq Pol (Cat.-No. PCR-201)	5 units/µl	0.2 µl (1 unit)	0.05 units/µl
PCR grade H ₂ O		Fill up to 20 µl	

- 1) The optimal final concentration of the labeled nucleotide may vary depending on the application.

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

Kits for DNA labeling
 Standard PCR / Thermophilic Polymerases
 Deoxynucleotides (dNTPs)
 Primers and Oligonucleotides
 DNA Ladders

For detailed information please visit
www.jenabioscience.com/pcr