

Clearly the best



# Ultra-pure Nucleotides

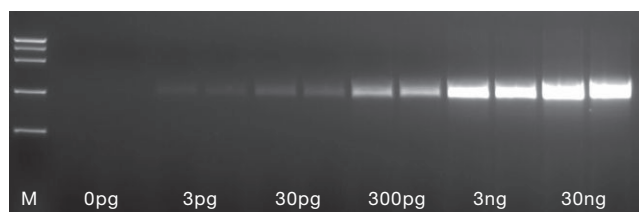
- **≥99% triphosphate purity by HPLC**
- **Free from DNase, RNase, Protease, Nickase and other PCR inhibitors**
- **Validated in wide range of applications**
- **Custom, bulk and OEM service**

## Setting the standard for nucleotide purity

Bioline ultra-high purity deoxynucleoside triphosphates (dNTPs) are manufactured to the highest standard in the industry. Our dNTPs are enzymatically synthesized from premium quality raw materials in state-of-the-art production facilities. The manufacturing process eliminates impurities and PCR-specific inhibitors such as modified nucleotides, tetraphosphates and pyrophosphates commonly observed in other commercially available dNTP products. Bioline dNTPs undergo stringent purification steps including quantitative HPLC and possess ≥99% purity to enhance incorporation and yield optimal results.

## Outstanding performance and reliability for the most demanding applications

Bioline ultra-pure dNTPs have been extensively tested and validated for use in a wide variety of molecular biology applications including highly sensitive techniques such as cDNA synthesis/RT-PCR (fig. 1), long-range PCR (>20kb), real-time PCR (fig. 2) and low copy assays as well as DNA sequencing, site-directed mutagenesis and microarrays.



**Fig. 1 Exceptional sensitivity in One-Step RT-PCR**

Varying concentrations of mouse total RNA (30ng to 3pg) in duplicate was used for highly sensitive first-strand cDNA synthesis and PCR in a single tube with MyTaq™ One-Step RT-PCR Kit (BIO-65048). PCR primers specific to *RN18S* was used to produce a 1kb fragment. The results illustrate that using Bioline's dNTPs, RT-PCR was successful even with very low template concentrations.

	dATP	dCTP	dGTP	dTTP	dUTP	HMdCTP
Concentration	100mM ± 2%					
Appearance	Clear Colorless Solution					
pH of Solution	7.5					
Purity (HPLC)	≥99%					
DNase, RNase, Nicking Activity	Negative					
Stability	≥24 months					

**United Kingdom**  
Tel: +44 (0)20 8830 5300  
**Germany**  
Tel: +49 (0)3371 681 229  
**Australia**  
Tel: +61 (0)2 9209 4180

**USA**  
Toll Free: 888 257 5155  
**France**  
Tel: +33 (0)1 42 56 04 40  
**Singapore**  
Tel: 1800 BIOLINE

[www.bioline.com/nucleotides](http://www.bioline.com/nucleotides)



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## Quality control and performance

Bioline dNTPs are tested for the absence of DNase, RNase, Protease, Nickase activity and the absence of human, viral and bacterial DNA. Each batch is purified with quantitative HPLC and undergoes stringent functional tests with a wide range of assays to guarantee performance and outstanding results.

## Improved stability and extended shelf-life

All Bioline ultra-pure dNTP solutions are ready-to-use, at pH 7.5, in lithium salts, which offer greater resistance to repeated freeze/thaw cycles than sodium salts and also remain sterile over the entire shelf life due to lithium's bacteriostatic activity.

## Excellence in nucleotide development and production

Bioline is an ISO 9001:2008 certified primary manufacturer of nucleotides. Our purpose built facility is dedicated to the development and production of superior quality dNTPs and has the capacity for small scale to industrial scale production in a wide range of formats and arrangements.

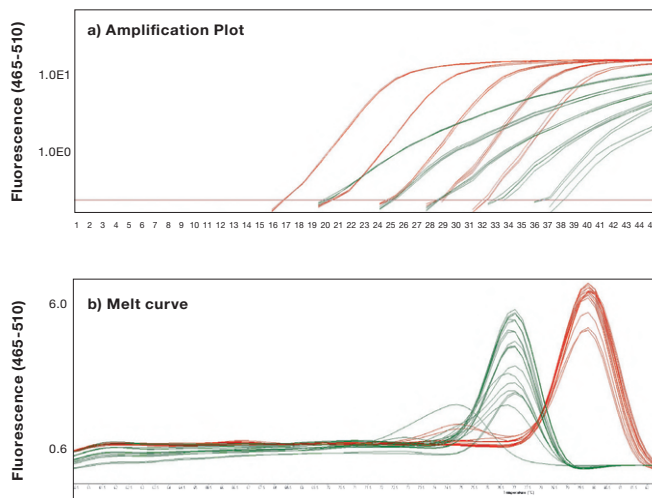
## Creative solutions: custom, bulk and OEM services

We specialize in customized solutions to meet your specific nucleotide needs, from micro-liter to multi-liter quantities, to special mixes, blends and concentrations.

At Bioline, each custom, bulk and OEM arrangement comes with a comprehensive package of customer services including:

- Customized product specifications
- Technical and scientific support
- Special testing capabilities
- Secure delivery
- Mutually agreed confidentiality

Visit our dedicated microsite: [www.bioline.com/solutions](http://www.bioline.com/solutions) for further information, or please contact [custom@bioline.com](mailto:custom@bioline.com) for enquiries.



**Fig. 2 Superior real-time PCR results**

Bioline's dNTP mix is formulated for optimal performance in real-time PCR applications, the most sensitive technique for gene expression analysis, as it is dependent upon high quality reagents to generate reliable data. Human *β-actin* gene was amplified using SensiFAST™ SYBR Lo-ROX One-Step (red) and the results compared with those from a One-Step Kit from supplier A (green). The experiment used 10-fold serial dilutions of human RNA (in triplicate) over 5 orders of magnitude. The results illustrate that Bioline dNTPs are ideal for highly sensitive (earlier Ct), reproducible, and specific real-time PCR even with very low template concentrations.

## Ordering Information

PRODUCT	PACK SIZE	PRESENTATION	CAT NO.
<b>dNTP Individual</b>			
dATP	25μmol	100mM (1 x 250μl)	BIO-39036
dCTP	25μmol	100mM (1 x 250μl)	BIO-39038
dGTP	25μmol	100mM (1 x 250μl)	BIO-39037
dTTP	25μmol	100mM (1 x 250μl)	BIO-39039
dUTP	25μmol	100mM (1 x 250μl)	BIO-39035
EPIK™ Hydroxymethyl dCTP	25μmol	100mM (1 x 250μl)	BIO-39046
<b>dNTP Set (dATP, dCTP, dGTP, dTTP)</b>			
dNTP Set	100mM total	4 x 25μmol (4 x 250μl)	BIO-39025
	100mM total	4 x 100μmol (4 x 1ml)	BIO-39049
	100mM total	4 x 100μmol (4 x 4 x 250μl)	BIO-39026
<b>dNTP Mix (dATP, dCTP, dGTP, dTTP)</b>			
dNTP Mix	10mM total	10μmol (1 x 1ml)	BIO-39044
	40mM total	20μmol (1 x 500μl)	BIO-39043
	100mM total	50μmol (1 x 500μl)	BIO-39028
	10mM total	100μmol (10 x 1ml)	BIO-39053
	100mM total	200μmol (4 x 500μl)	BIO-39029
<b>dUTP Mix (dATP, dCTP, dGTP, dUTP)</b>			
dUTP Mix	50mM total	25μmol (1 x 500μl)	BIO-39041

PSGBL0615V3.1

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Toll Free: 888 257 5155  
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Tel: +33 (0)1 42 56 04 40  
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