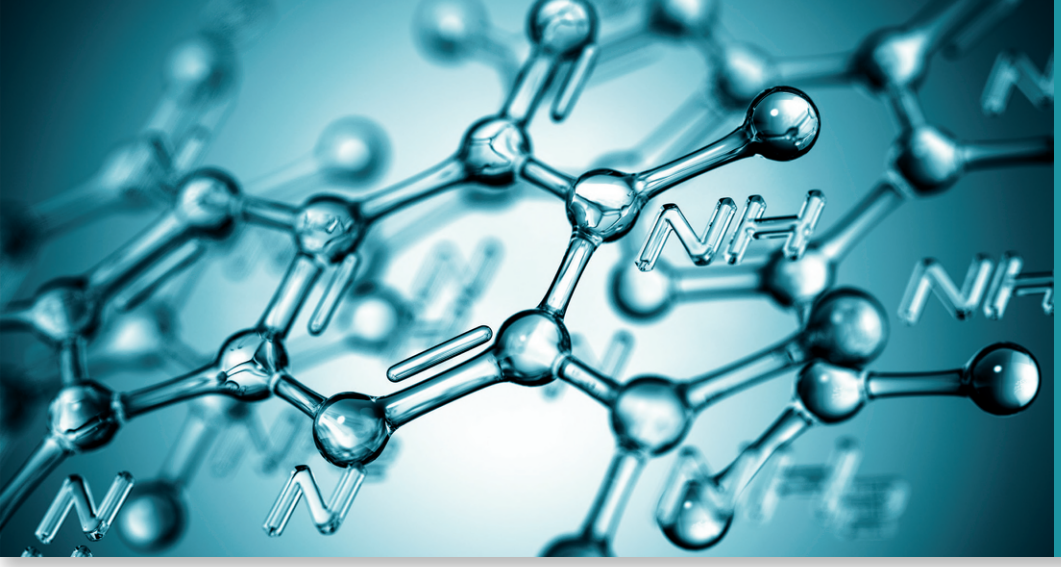

Ultra-pure Nucleotides

Clearly the best

- **High-quality:** at least 99 % purity, ideal for use in PCR, qPCR and NGS applications
- **Optimum performance:** guaranteed free from PCR inhibitors for maximum assay performance
- **Convenient:** Ready-to-use sequenceable grade dNTPs, sets or pre-blended dNTP mixes
- **Enzyme free:** DNase, RNase and Nickase free
- **Flexible:** available in custom, bulk and OEM quantities
- **Stable:** extended shelf-life of 24 months at -20 °C

HIGH 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 as determined by quantitative HPLC and possess >99 % purity to enhance incorporation and yield optimal results.

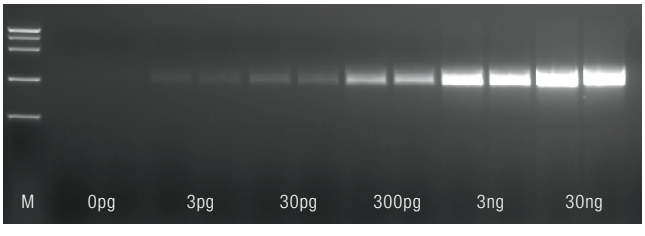

Fig. 1 Exceptional sensitivity in One-Step RT-PCR
Varying concentrations of mouse total RNA (30 ng to 3 pg) in duplicate was used for highly sensitive first-strand cDNA synthesis and PCR in a single tube with MyTaq™ One-Step RT-PCR Kit (BIO-65048). PCR primers specific to *RN18S* was used to produce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

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 (>20 kb), qPCR (Fig. 2) and low copy assays as well as DNA sequencing and microarrays.

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

bioline.com/nucleotides

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QUALITY CONTROL

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

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 PRODUCTION

Bioline is an ISO 13485 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

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

> *"In our lab we only use dNTP mix from Bioline for our PCR and real-time PCR master mixtures. The quality is second to none!"*
>
> Dr. Daum, Longhorn Vaccines & Diagnostics, San Antonio, USA

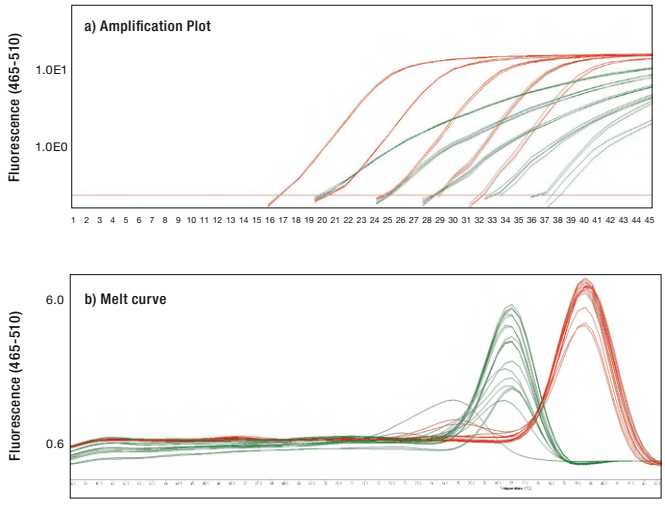

Fig. 2 Superior qPCR results
Bioline dNTP mix is formulated for optimal performance in qPCR applications, the most sensitive technique for gene expression analysis, as it is dependent upon high quality reagents to generate reliable data. Human ß-actin gene was amplified using SensiFAST™ SYBR Lo-ROX One-Step (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, reproducible and specific qPCR even with very low template concentrations.

Ordering Information

dNTP Individual	Pack Size	Presentation	Cat No.
dATP	25 µmol	100 mM (1 x 250 µL)	BIO-39036
dCTP	25 µmol	100 mM (1 x 250 µL)	BIO-39038
dGTP	25 µmol	100 mM (1 x 250 µL)	BIO-39037
dTTP	25 µmol	100 mM (1 x 250 µL)	BIO-39039
dUTP	25 µmol	100 mM (1 x 250 µL)	BIO-39035

dNTP Set (dATP, dCTP, dCTP, dTTP)	Pack Size	Presentation	Cat No.
dNTP Set	100 mM total	4 x 25 µmol (4 x 250 µL)	BIO-39025
	100 mM total	4 x 100 µmol (4 x 1 mL)	BIO-39049
	100 mM total	4 x 100 µmol (4 x 4 x 250 µL)	BIO-39026

dNTP Mix (dATP, dCTP, dGTP, dTTP)	Pack Size	Presentation	Cat No.
dNTP Mix	10 mM total	10 µmol (1 x 1 mL)	BIO-39044
	40 mM total	20 µmol (1 x 500 µL)	BIO-39043
	100 mM total	50 µmol (1 x 500 µL)	BIO-39028
	10 mM total	100 µmol (10 x 1 mL)	BIO-39053
	100 mM total	200 µmol (4 x 500 µL)	BIO-39029

dUTP Mix (dATP, dCTP, dGTP, dUTP)	Pack Size	Presentation	Cat No.
dUTP Mix	50 mM total	25 µmol (1 x 500 µL)	BIO-39041

For related products such as Uracil DNA Glycosylase visit www.bioline.com

Please contact us for institutional pricing, special price quotations and availability of bulk pack size.

PSGBL0818V4.1

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