



Product Insert

100mM dNTP Set

Product:

2'-deoxynucleoside-5'-triphosphate (dNTP) Set

Catalogue Numbers:

BIO-39025 4 x 250µl
 BIO-39026 4 x 4 x 250µl
 BIO-39027 4 x 20 x 250µl

Features:

- Convenient pack containing 4 separate 100mM solutions
- >99% pure by HPLC
- Extended shelf-life of 24 months at -20°C
- Free from PCR inhibitors
- DNase, RNase and Nickase free
- Manufactured by Bioline in a purpose-built laboratory
- Custom, Bulk and OEM Nucleotides service

Applications:

Suitable for a wide variety of applications such as:

- Standard PCR assays
- Long range PCR assays
- cDNA synthesis
- qPCR
- Microarrays
- DNA sequencing
- Mutagenesis
- Genotyping
- DHPLC
- Labeling

Description:

Ultra-Pure dNTPs

Bioline Ultra-pure dNTPs are enzymatically synthesized from premium quality raw materials, using highly specific production systems in our purpose built 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 are purified with quantitative HPLC and possess at least 99% purity.

Improved Stability and Extended Shelf-Life

All Bioline dNTPs are supplied as Lithium salts in purified water at pH 7.5. Lithium salts have greater resistance to repeated freezing and thawing cycles than Sodium salts, and Lithium salt dNTP preparations remain sterile over the entire shelf-life due to the bacteriostatic activity of Lithium towards various microorganisms.

Characteristics:

Product Specifications:

A set of 4 separate 100mM lithium salt solutions (dATP, dGTP, dCTP, and dTTP, (pH 7.5). Each solution contains 25µmol (250µl) of the corresponding dNTP.

Batch details:

Concentration: 100mM each
 Presentation: 250µl per tube
 Batch No: See vial

Storage and Stability:

Bioline dNTPs can be stored at -20°C or -70°C, in a constant-temperature freezer for 24 months. Avoid multiple freezing/thawing. Bioline dNTPs will remain stable if stored as specified. For long-term usage, aliquoting is recommended.

Shipping Conditions:

On Dry-Ice or Blue-Ice

Characteristics: See table below for characteristics of each dNTP.

dNTP Master Mix Preparation

Prepare a Master Mix for DNA synthesis as follows: Mix equal volumes of all separate dNTP solutions in a new micro-centrifuge tube. The final solution has a concentration of 25mM of each dNTP, which corresponds to a 100x working concentration.

Product Citations:

1. Tabone, T., *et al. Nucleic Acids Research*, **34(6)**, e45, 2006.
2. Dean, Y.D., *et al. Biol. Chem.* **275(44)**, 34382-34392, 2000.
3. Lloyd, R.E., *et al. Genetics*, **172**, 2515-2527, 2006.

Notes:

1. This product insert is a declaration of analysis at the time of manufacture.
2. Research Use Only.

UK
 Bioline
 16 The Edge Business Centre
 Humber Road
 London, NW2 6EW
 U.K

Tel: +44 (0)20 8830 5300
 Fax: +44 (0)20 8452 2822

Germany
 Bioline GmbH
 Im Biotechnologiepark TGZ 2
 D-14943 Luckenwalde
 Germany

Tel: +49 (0)33 7168 1229
 Fax: +49 (0)33 7168 1244

email: info@bioline.com
 website: www.bioline.com

USA
 Bioline USA Inc.
 305 Constitution Dr.
 Taunton
 MA 02780
 USA

Toll Free: 888 257 5155
 Tel: 508 880 8990
 Fax: 508 880 8993

Australia
 Bioline (Aust) Pty Ltd
 PO Box 122
 Alexandria NSW 1435
 Australia

Tel: +61 (0)2 9209 4180
 Fax: +61 (0)2 9209 4763

	dATP	dCTP	dGTP	dTTP
Product	dATP Lithium 100mM Solution	dCTP Lithium 100mM Solution	dGTP Lithium 100mM Solution	dTTP Lithium 100mM Solution
Nomenclature	2'-deoxyadenosine-5'-triphosphate	2'-deoxycytidine-5'-triphosphate	2'-deoxyguanosine-5'-triphosphate	2'-deoxythymidine-5'-triphosphate
Formula	C ₁₀ H ₁₂ Li ₄ N ₅ O ₁₂ P ₃	C ₉ H ₁₂ Li ₄ N ₅ O ₁₃ P ₃	C ₁₀ H ₁₂ Li ₄ N ₅ O ₁₃ P ₃	C ₁₀ H ₁₃ Li ₄ N ₅ O ₁₄ P ₃
Molecular Weight	514.9g/mol	490.9g/mol	530.9g/mol	505.9g/mol
λ _{max} pH 7.0	259nm	272nm	252nm	267nm
ε at λ _{max}	15.4 E x mmol ⁻¹ x cm ⁻¹	9.1 E x mmol ⁻¹ x cm ⁻¹	13.7 E x mmol ⁻¹ x cm ⁻¹	9.6 E x mmol ⁻¹ x cm ⁻¹
A ₂₅₀ /A ₂₆₀	0.78 ± 0.03	0.82 ± 0.03	1.16 ± 0.05	0.65 ± 0.03
A ₂₈₀ /A ₂₆₀	0.15 ± 0.02	0.98 ± 0.03	0.66 ± 0.03	0.73 ± 0.02
Concentration	100mM ± 2%	100mM ± 2%	100mM ± 2%	100mM ± 2%
Appearance	Clear Colourless Solution	Clear Colourless Solution	Clear Colourless Solution	Clear Colourless Solution
pH of Solution	7.5	7.5	7.5	7.5
dNTP (HPLC Area)	≥ 99%	≥ 99%	≥ 99%	≥ 99%
dNDP (HPLC Area)	< 1%	< 1%	< 1%	< 1%
DNases, RNases, Nicking Activity	Negative	Negative	Negative	Negative