

Product Insert
100mM dNTP Set



DATA SHEET

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:

	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
λmax pH 7.0	259nm	272nm	252nm	267nm
ε at λmax	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

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.