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-39049	4 x 1ml
BIO-39027	4 x 20 x 250µl

Features
- Ultra-pure: >99% trisphosphate 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 facility

Applications
Suitable for a wide variety of applications such as:
- Standard and long range PCR assays
- cDNA synthesis
- qPCR
- Microarrays
- DNA sequencing
- DHPLC
- Labeling

Description
A set of ready-to-use molecular grade dNTP solutions consisting of 4 separate 100mM solutions of dATP, dGTP, dCTP, and dTTP, at pH 7.5 and supplied as lithium salts in purified water. For use in DNA polymerization reactions, DNA labeling and sequencing processes. Dependable PCR grade.

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.

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 Conditions:
dNTP Set can be stored for 24 months at -20°C. Avoid multiple freeze/thaw cycles. For long-term storage, aliquoting is recommended.

Shipping Conditions:
On Dry Ice or Blue Ice

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.

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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	$C_{10}H_{12}N_5O_{12}P_3Li_4$	$C_9H_{12}N_3O_{13}P_3Li_4$	$C_{10}H_{12}N_5O_{13}P_3Li_4$	$C_{10}H_{13}N_2O_{14}P_3Li_4$
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 @ pH7.0	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 Colorless Solution	Clear Colorless Solution	Clear Colorless Solution	Clear Colorless 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
Storage	at -20°C	at -20°C	at -20°C	at -20°C
Stability	≤24 months	≤24 months	≤24 months	≤24 months