

# 100mM dNTP Set

Shipping: Dry Ice/Blue Ice	Catalog numbers	
Batch No.: See vial	BIO-39025: 4 x 25 µmol	4 x 250 µL
Concentration: 100 mM each	BIO-39026: 4 x 100 µmol	4 x 4 x 250 µL
	BIO-39049: 4 x 100 µmol	4 x 1 mL

Store at -20°C

**meridian** BIOSCIENCE™

## Storage and stability:

dNTP Set is shipped on dry/blue ice. On arrival store at -20 °C for optimum stability. Repeated freeze/thaw cycles should be avoided. For long-term storage, aliquoting is recommended. Thaw, mix, and briefly centrifuge each component before use.

## Expiry:

When stored under the recommended conditions and handled correctly, quality is retained until the expiry date on the outer box label.

## Safety precautions:

Please refer to the material safety data sheet for information.

## Presentation:

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

## Quality control specifications:

dNTP Mix is extensively tested for contamination prior to release. dNTPs are >99% pure by HPLC and are free of DNase, RNase, Protease, phosphatase and nicking activity. Lithium salts, >99% deoxynucleoside triphosphates (HPLC, area %), <1% deoxynucleoside mono-phosphates and deoxynucleoside diphosphates.

## Notes:

Suitable for research or further manufactured use only.

## Trademarks:

HyperLadder is a trademark of Bioline Reagents Ltd.

## Description

A set of ready-to-use molecular grade dNTP solutions consisting of 4 separate 100 mM 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.

All 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.

## 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 in a purpose-built facility

## Applications

- Standard and long range PCR assays
- cDNA synthesis
- qPCR
- Microarrays
- DNA sequencing
- Labeling

### 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 25 mM of each dNTP, which corresponds to a 100x working concentration.

### Product citations

1. Rip, D., *et al. Food Analyt. Meth.* **2**, 190-196 (2009).
2. Thomson, S., *et al. Meth. Mol. Biol.* **512**, 233-248 (2009).
3. Hayden, M.J., *et al. BMC Genom.* **9**, 80-85 (2008).
4. Mayor, N.P., *et al. J. Immunol. Meth.* **327(1/2)**, 82-87 (2007).

### Associated products

Product Name	Pack Size	Catalog No.
HyperLadder™ 1 Kb	200 Lanes	BIO-33025
VELOCITY DNA Polymerase	250 Units	BIO-21098
Agarose	500g	BIO-41025

	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 <sub>10</sub> H <sub>12</sub> N <sub>5</sub> O <sub>12</sub> P <sub>3</sub> Li <sub>4</sub>	C <sub>9</sub> H <sub>12</sub> N <sub>3</sub> O <sub>13</sub> P <sub>3</sub> Li <sub>4</sub>	C <sub>10</sub> H <sub>12</sub> N <sub>5</sub> O <sub>13</sub> P <sub>3</sub> Li <sub>4</sub>	C <sub>10</sub> H <sub>13</sub> N <sub>2</sub> O <sub>14</sub> P <sub>3</sub> Li <sub>4</sub>
Molecular Weight	514.9 g/mol	490.9 g/mol	530.9 g/mol	505.9 g/mol
λ <sub>max</sub> pH 7.0	259nm	272nm	252nm	267nm
ε at λ <sub>max</sub> @ pH7.0	15.4 E x mmol <sup>-1</sup> x cm <sup>-1</sup>	9.1 E x mmol <sup>-1</sup> x cm <sup>-1</sup>	13.7 E x mmol <sup>-1</sup> x cm <sup>-1</sup>	9.6 E x mmol <sup>-1</sup> x cm <sup>-1</sup>
A <sub>250</sub> /A <sub>260</sub>	0.78 ± 0.03	0.82 ± 0.03	1.16 ± 0.05	0.65 ± 0.03
A <sub>280</sub> /A <sub>260</sub>	0.15 ± 0.02	0.98 ± 0.03	0.66 ± 0.03	0.73 ± 0.02
Concentration	100 mM ± 5%	100 mM ± 5%	100 mM ± 5%	100 mM ± 5%
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

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