

## dNTP Set and Mixes

Store at -20°C

Cat. No.	Description	Concentration	Quantity
G050	dNTP Set (dATP, dCTP, dGTP, dTTP)	100 mM each	250 µl each
G010	dNTP Mix (dATP, dCTP, dGTP, dTTP)	10 mM each	250 µl
G128	dNTP Mix (dATP, dCTP, dGTP, dTTP)	10 mM each	500 µl
G129	dNTP Mix (dATP, dCTP, dGTP, dTTP)	10 mM each	1 ml

### Product Description

#### dNTP Set

The set consists of 100 mM aqueous solutions of dATP, dCTP, dGTP and dTTP each supplied in a separate vial. Since the nucleotides are provided individually, the dNTP set offers maximum flexibility in the preparation of reaction mixes for different applications.

#### dNTP Mix

The dNTP mix is a ready-to-use aqueous solution containing dATP, dCTP, dGTP and dTTP, each at a final concentration of 10 mM. The mix reduces the number of pipetting steps therefore minimizing the risk of errors.

### Applications

For use in PCR, long-range PCR, RT-PCR, cDNA synthesis, primer extension, DNA sequencing and DNA labelling.

### General Characteristics

<b>dATP</b>	$C_{10}H_{13}N_5O_{12}P_3Na_3$	MW=557.2, $\lambda_{max} = 259 \text{ nm}$ , $\epsilon = 1.54 \times 10^4 \text{ M}^{-1}\text{cm}^{-1}$ at pH 7.0
<b>dCTP</b>	$C_9H_{13}N_3O_{13}P_3Na_3$	MW=533.1, $\lambda_{max} = 271 \text{ nm}$ , $\epsilon = 9.1 \times 10^3 \text{ M}^{-1}\text{cm}^{-1}$ at pH 7.0
<b>dGTP</b>	$C_{10}H_{13}N_5O_{13}P_3Na_3$	MW=573.2, $\lambda_{max} = 253 \text{ nm}$ , $\epsilon = 1.37 \times 10^4 \text{ M}^{-1}\text{cm}^{-1}$ at pH 7.0
<b>dTTP</b>	$C_{10}H_{14}N_2O_{14}P_3Na_3$	MW=548.1, $\lambda_{max} = 267 \text{ nm}$ , $\epsilon = 9.6 \times 10^3 \text{ M}^{-1}\text{cm}^{-1}$ at pH 7.0

### Molecular Biology Grade

- Functionally tested in PCR with Taq and Pfu DNA Polymerases.
- Purity of each component is >98% by HPLC.
- Endo-, exodeoxyribonuclease and phosphatase free.

### Protocol

#### G050

Preparation of dNTP mixtures from dNTP set:

Final concentration of dNTP mix	Volume of dNTP				Volume of nuclease-free water	Total volume of dNTP mix
	dATP	dGTP	dCTP	dTTP		
2 mM each	10 µl	10 µl	10 µl	10 µl	460 µl	500 µl
	100 µl	100 µl	100 µl	100 µl	4.6 ml	5 ml
	250 µl	250 µl	250 µl	250 µl	11.5 ml	12.5 ml
10 mM each	10 µl	10 µl	10 µl	10 µl	60 µl	100 µl
	100 µl	100 µl	100 µl	100 µl	600 µl	1 ml
	250 µl	250 µl	250 µl	250 µl	1.5 ml	2.5 ml
25 mM each	10 µl	10 µl	10 µl	10 µl	-	40 µl
	100 µl	100 µl	100 µl	100 µl	-	400 µl
	250 µl	250 µl	250 µl	250 µl	-	1 ml

#### G010, G128, G129

Preparation of reaction volumes with dNTP Mix:

20 µl final reaction volume	
Final dNTP concentration	Final dNTP volume
0.2 mM	0.4 µl
0.5 mM	1 µl
1.0 mM	2 µl
1.5 mM	3 µl
25 µl final reaction volume	
Final dNTP concentration	Final dNTP volume
0.2 mM	0.5 µl
0.5 mM	1.25 µl
1.0 mM	2.5 µl
1.5 mM	3.75 µl