



dNTP Set and Mixes

Store at -20°C

Cat. No.	Description	Concentration	Quantity
D100S	dNTP Set (dATP, dCTP, dGTP, dTTP)	100 mM each	250 µl each
D025M	dNTP Mix (dATP, dCTP, dGTP, dTTP)	25mM each	500 µl
D010M	dNTP Mix (dATP, dCTP, dGTP, dTTP)	10 mM each	1 ml

Product Description

dNTP Set

dNTP Set, PCR Grade consists of 100 mM aqueous solutions of four separate tubes of dATP, dCTP, dGTP and dTTP supplied as ultrapure aqueous solutions and suitable for all molecular biology applications including PCR/qPCR, reverse transcription, DNA labeling and DNA sequencing.

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

dATP	$C_{10}H_{13}N_5O_{12}P_3$	MW=488.1, $\lambda_{max} = 259 \text{ nm}$, $\epsilon = 15.1 \text{ l}\cdot\text{mmol}^{-1}\cdot\text{cm}^{-1}$ at pH 7.0
dCTP	$C_9H_{13}N_3O_{13}P_3$	MW=464.1, $\lambda_{max} = 271 \text{ nm}$, $\epsilon = 8.9 \text{ l}\cdot\text{mmol}^{-1}\cdot\text{cm}^{-1}$ at pH 7.0
dGTP	$C_{10}H_{13}N_5O_{13}P_3$	MW=504.1, $\lambda_{max} = 253 \text{ nm}$, $\epsilon = 14.2 \text{ l}\cdot\text{mmol}^{-1}\cdot\text{cm}^{-1}$ at pH 7.0
dTTP	$C_{10}H_{14}N_2O_{14}P_3$	MW=479.1, $\lambda_{max} = 267 \text{ nm}$, $\epsilon = 9.5 \text{ l}\cdot\text{mmol}^{-1}\cdot\text{cm}^{-1}$ at pH 7.0

Molecular Biology Grade

- Functionally tested in PCR with Taq and Pfu DNA Polymerases.
- Purity of each component is >99% by HPLC.
- Endo-, exodeoxyribonuclease and phosphatase free.
- **Quality Control Specifications:** Low Copy Long Range PCR (18 kb, lambda DNA, template dilution series): PCR fragment with 50 pg of template or less. RT-PCR (749 bp fragment, human GAPDH gene, template dilution series): PCR fragment with 10 pg of template or less.

Protocol

D100S

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 100 µl 250 µl	10 µl 100 µl 250 µl	10 µl 100 µl 250 µl	10 µl 100 µl 250 µl	460 µl 4.6 ml 11.5 ml	500 µl 5 ml 12.5 ml
10 mM each	10 µl 100 µl 250 µl	10 µl 100 µl 250 µl	10 µl 100 µl 250 µl	10 µl 100 µl 250 µl	60 µl 600 µl 1.5 ml	100 µl 1 ml 2.5 ml
25 mM each	10 µl 100 µl 250 µl	10 µl 100 µl 250 µl	10 µl 100 µl 250 µl	10 µl 100 µl 250 µl	- - -	40 µl 400 µl 1 ml

D025M, D010M

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
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