100 mM dNTP Set

Cat. No. DN040-040M Size: 4 x 10 ml
Cat. No. DN040-4000 Size: 4 x 1 ml
Cat. No. DN046-1000 Size: 4 x 250 µl
Cat. No. DN046-0100 Size: 4 x 25 µl

Description

100 mM dNTP (2'-deoxynucleoside 5'-triphosphate) Set consists of all four deoxynucleotides (dATP, dCTP, dGTP, dTTP), each at a concentration of 100 mM. The deoxynucleotides are suitable for use in polymerase chain reaction (PCR), sequencing, fill-in, nick translation, cDNA synthesis, and TdT tailing reactions. The product is supplied as ready-to-use solutions.

Features

- Compatible with almost DNA polymerases in a variety of applications.
- ≥ 99% pure as determined by HPLC analysis.
- Exceptional stability.

Application

- PCR amplification

Kit Contents

Contents	DN040-040M	DN040-4000	DN046-0100	DN046-1000
dATP	10 ml	1 ml	25 µl	250 µl
dTTP	10 ml	1 ml	25 µl	250 µl
dCTP	10 ml	1 ml	25 µl	250 µl
dGTP	10 ml	1 ml	25 µl	250 µl

Quality Control

The quality of the 100 mM dNTP Set is tested on a lot-to-lot basis to ensure consistent product quality.

Required Materials

- PCR equipments
- Primer
- PCR tube
- PCR grade water

Buffer Preparation

TE Buffer (Tris-EDTA, pH8.0): 10 mM Tris-HCl, pH 8.0 with 0.1mM EDTA

Protocol

Add recommended volume of dNTP solution into PCR reaction.
The following in the below table is recommended:

20 µl Final Reaction Volume

Final dNTP Concentration	The volume of dNTP mixture
0.2 mM	0.16 µl
0.5 mM	0.4 µl
1.0 mM	0.8 µl
1.5 mM	1.2 µl

25 µl Final Reaction Volume

Final dNTP Concentration	The volume of dNTP mixture
0.2 mM	0.2 µl
0.5 mM	0.5 µl
1.0 mM	1 µl
1.5 mM	1.5 µl

50 µl Final Reaction Volume

Final dNTP Concentration	The volume of dNTP mixture
0.2 mM	0.4 µl
0.5 mM	1 µl
1.0 mM	2 µl
1.5 mM	3 µl

Troubleshooting

Problem	Cause	Solution
Incorrect amplification or PCR inhibition.	Incorrect dNTP concentration.	Check and optimized the dNTP concentration of the PCR reaction.
No amplicon	Error in set up.	Repeat the experiment, checking all reagents are added in correct volumes. Use master mix to ensure all components added correctly.
Non-specific amplification - smeared product.	Template degraded.	Minimize freeze thawing of DNA. Run template on agarose gel to check integrity.
Wrong size band amplified.	Contamination	Check no template control for bands.

Related Ordering Information

Cat. No.	Description	Size
MB101-0500	Taq DNA Polymerase	500 U

Caution

- Check buffers before use for precipitation.
- Aliquot reagents to avoid contamination and repeated freeze-thaw cycles.
- During operation, always wear a lab coat, disposable gloves, and protective equipment.
- All products are for research use only.