

100 mM dNTP Set, 4x1ml

Cat#: orb640189 (User Manual)

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.
- $\geq 99\%$ pure as determined by HPLC analysis.
- Exceptional stability.

Applications

PCR amplification

Kit Contents

Contents

dATP

orb640189-040M

10 ml

orb640189-4000

1 ml

orb640189-1000

250 μ l

orb640189-0100

25 μ l

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 μ l Final Reaction Volume

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

25 μ l Final Reaction Volume

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

50 μ l Final Reaction Volume

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

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.

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.
- Research Use Only. Not intended for any animal or human therapeutic or diagnostic uses.