
BIOTOOLS dNTP Mix (10 mM each)

Premixed Deoxynucleotide Triphosphate Solution

Store at -20°C

Description

Biotoools Deoxynucleotide Triphosphate Solution (dNTP Mix) has been designed to facilitate routine laboratory work. This ready-to-use solution can be employed in different applications where deoxynucleotide triphosphates are necessary for the synthesis of new DNA strands (e.g. PCR, qPCR, LAMP-PCR, cDNA synthesis, RT-PCR, DNA sequencing, primer extension, etc.). The dNTPs in this solution are provided at 10 mM each in ultrapure water pH 7.0. The premixing of the four dNTPs (dATP, dCTP, dGTP and dTTP) at equal concentrations, prevents problems of misincorporation, reduces the number of pipetting steps and the risk of reaction set up errors.

The recommended concentration for amplification reactions is about 50-500 μM each dNTP, being the most commonly used dNTP concentration 200 μM . For amplification of DNA fragments less than 3 kb in length do not use concentrations higher than 200 μM (each). Long amplifications, on the other hand, require higher concentrations of dNTPs, namely in the range 300-500 μM (each).

An increase in the concentration of dNTPs should be accompanied by an increase of the concentration of MgCl_2 , because high concentrations of dNTPs behave as potent Mg^{2+} chelating agent reducing therefore the availability of free Mg^{2+} for polymerase activity.

Each Lot of the Deoxynucleotide Triphosphate Solution is tested under strict conditions to ensure Lot quality and Lot-to-Lot reproducibility.

BIOTOOLS recommends the following dNTP volumes for most amplification applications (so that final concentration for each dNTP is 200 μM):

| Final Reaction Volume | Recommended dNTP Mix (10 mM each) |
|------------------------------|--|
| 50 μL | 1 μL (200 μM each) |
| 20 μL | 0.4 μL (200 μM each) |

For reactions where final volume is critical, we recommend dNTP Mix (25 mM each). Biotoools dNTPs are also available individually at 10 mM or 100 mM concentration (see Order Information).

Storage Conditions

Store vials at -20°C in a constant temperature freezer. They should be stored as aliquots in order to prevent them from being submitted to freeze/thaw cycles.

Order Information

| Contents | Format | References |
|-----------------------|-------------|------------|
| dNTP Mix (10 mM each) | 1 x 250 µL | 20.031 |
| | 2 x 250 µL | 20.037 |
| | 4 x 250 µL | 20.038 |
| | 1 x 1000 µL | 20.051 |
| | 2 x 1000 µL | 20.052 |
| | 4 x 1000 µL | 20.053 |
| dNTP Mix (25 mM each) | 1 x 250 µL | 20.039 |
| | 1 x 1000 µL | 20.054 |
| dATP (10 mM) | 1 x 250 µL | 20.131 |
| dCTP (10 mM) | 1 x 250 µL | 20.132 |
| dGTP (10 mM) | 1 x 250 µL | 20.133 |
| dTTP (10 mM) | 1 x 250 µL | 20.134 |
| dATP (100 mM) | 1 x 250 µL | 20.135 |
| dCTP (100 mM) | 1 x 250 µL | 20.136 |
| dGTP (100 mM) | 1 x 250 µL | 20.137 |
| dTTP (100 mM) | 1 x 250 µL | 20.138 |
| dNTP Mix (10 mM each) | BULK | 20.031B |

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