



**3B BlackBio Biotech India**  
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## **3B dNTP Mix (10 mM final concentration) Premixed Deoxynucleotide Triphosphate Solution**

**STORE AT -20°C**

### ***Description***

3B 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 (i.e. DNA amplification, sequencing, primer extension, multiplex PCR, RT-PCR, etc.). The dNTPs in this solution are provided at 10 mM final concentration in ultrapure water pH 7.0. The premixing of the four dNTPs (dATP, dCTP, dGTP and dTTP) at equal concentrations, 2.5 mM each, prevents problems of misincorporation, which could occur should an unbalanced dNTP mix is used.

The recommended concentration for amplification reactions is about 50-500  $\mu$ M each dNTP, being the most commonly used dNTP concentration 200  $\mu$ M. 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.

For amplification of DNA fragments less than 3 Kb in length do not use concentrations higher than 200  $\mu$ M (each). Long amplifications, on the other hand, require higher concentrations of dNTPs, namely in the range 300-500  $\mu$ M (each), as well as special DNA polymerase combinations.

Each Lot of the Deoxynucleotide Triphosphate Solution is tested under strict conditions to ensure Lot quality and Lot-to-Lot reproducibility. 3B recommends the following dNTP volumes for most amplification applications (so that final concentration for each dNTP is 200  $\mu$ M):

<b>Final Reaction Volume</b>	<b>Recommended dNTP Mix (10 mM final conc) Volume</b>
50 $\mu$ l rxn	4 $\mu$ l (200 $\mu$ M each)
20 $\mu$ l rxn	1.6 $\mu$ l (200 $\mu$ M each)

***For reactions where final volume is critical, we recommend dNTP Mix, 25 mM final concentration (Cat. No. 3B154). Also the dNTPs are available individually at 10 mM or 100 mM concentration.***

## ***Storage Conditions***

Store at -20°C in a constant temperature freezer. Do not freeze/thaw repeatedly, for a frequent use aliquot vial content.

## ***Order Information***

### **dNTP Mix**

<b>PRODUCT</b>	<b>FORMAT</b>	<b>CAT N°</b>
10 mM dNTP Mix	250 µl	3B151
10 mM dNTP Mix	2 x 250 µl	3B152
10 mM dNTP Mix	4 x 250 µl	3B153
25 mM dNTP Mix	250 µl	3B154

### **Individual dNTPs**

<b>PRODUCT</b>	<b>FORMAT</b>	<b>CAT N°</b>
10 mM dATP	250 µl	3B156
10 mM dCTP	250 µl	3B157
10 mM dGTP	250 µl	3B158
10 mM dTTP	250 µl	3B159
100 mM dATP	250 µl	3B160
100 mM dCTP	250 µl	3B161
100 mM dGTP	250 µl	3B162
100 mM dTTP	250 µl	3B163

### ***Notice to buyers/users:***

*Some of the applications which may be performed with this product are covered by applicable patents in certain countries. The purchase of this product does not include or provide a license to perform patented applications. Users may be required to obtain a license depending on the country and/or application.*

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