

dNTP Set (100 mM solutions)

LOT: See product label

EXPIRY DATE: See product label

ORDERING INFORMATION

CAT. NO.	SIZE	PACKAGE CONTENT
BR0600601	4 × 250 µl	250µl 100 mM dATP, 250µl 100 mM dCTP, 250µl 100 mM dGTP, 250µl 100 mM dTTP
BR0600602	4 × 1 ml	1 ml 100 mM dATP, 1 ml 100 mM dCTP, 1 ml 100 mM dGTP, 1 ml 100 mM dTTP

COMPONENT	COMPOSITION
100 mM dATP	Aqueous solution (pH 7.0) of 100 mM 2'-deoxyadenosine 5'-triphosphate sodium salt
100 mM dCTP	Aqueous solution (pH 7.0) of 100 2'-deoxycytidine 5'-triphosphate sodium salt
100 mM dGTP	Aqueous solution (pH 7.0) of 100 mM 2'-deoxyguanosine 5'-triphosphate sodium salt
100 mM dTTP	Aqueous solution (pH 7.0) of 100 mM 2'-deoxythymidine 5'-triphosphate sodium salt

STORAGE

-20°C (until expiry date – see product label)

FEATURES

- Exceptional quality dNTPs of >99% purity confirmed by HPLC
- Free from DNA and PCR inhibitors
- Consistent PCR results due to outstanding dNTPs stability

APPLICATIONS

- Standard or hot-start PCR
- Long-range and high-fidelity PCR
- cDNA synthesis and RT-PCR
- qPCR
- Sequencing
- DNA labeling

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DESCRIPTION

biotechrabbit™ deoxynucleotide triphosphates are first-choice nucleotides for all PCR applications, including the most demanding, such as amplification of long targets (up to 40 kb), GC-rich templates, qPCR, cDNA synthesis, high-fidelity PCR, DNA labeling and sequencing.

Advanced production technology ensures that deoxyribonucleotide triphosphates have >99% purity and outstanding stability, ensuring excellent performance and consistent, reliable results.

For the maximum flexibility, nucleotides are available in sets and mixes of common concentrations.

PROTOCOL

Prevention of PCR contamination

When assembling the amplification reactions, care should be taken to eliminate the possibility of contamination with undesired DNA.

- Use separate clean areas for preparation of samples and reaction mixtures and for cycling.
- Wear fresh gloves. Use sterile tubes and pipette tips with aerosol filters for PCR setup.
- Use only water and reagents that are free of DNA and nucleases.
- With every PCR setup, perform a contamination control reaction that does not include template DNA.

Typical use of dNTPs

- 0.2 mM of each nucleotide is the recommended final dNTP concentration in common PCR applications.
- It is essential to have equal concentrations of all four dNTPs in the PCR mixture.
- Every time before the use thaw and mix well each dNTP solution, especially highly concentrated ones.
- To prepare on your own 1 ml dNTP mixtures of common 2 mM, 2.5 mM, 10 mM or 25 mM concentrations, follow the guidelines below:

1 ml Mix	100 mM dATP	100 mM dCTP	100 mM dGTP	100 mM dTTP	Water
2 mM dNTP Mix:	20 µl	20 µl	20 µl	20 µl	920 µl
10 mM dNTP Mix:	100 µl	100 µl	100 µl	100 µl	600 µl
25 mM dNTP Mix:	250 µl	250 µl	250 µl	250	-

Use the ready dNTP mixes in PCR (at 0.2 mM final concentration each) according to this guideline:

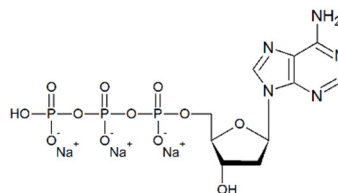
Volumes of dNTP mixes for the indicated PCR volume

dNTP Mix concentration	Used for PCR as	50 µl PCR	25 µl PCR	20 µl PCR
2 mM	10×	5 µl	2.5 µl	2 µl
2.5 mM	12.5×	4 µl	2 µl	1.6 µl
10 mM	50×	1 µl	0.5 µl	0.4 µl
25 mM	125×	0.4 µl	0.2 µl	0.16 µl

DEOXYRIBONUCLEOTIDE CHEMICAL FORMULA AND STRUCTURAL FORMULA
TRIPHOSPHATE MOLECULAR WEIGHT

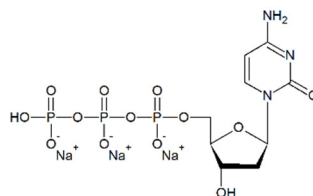
dATP
2'-deoxyadenosine 5'-
triphosphate

$C_{10}H_{13}N_5O_{12}P_3Na_3$
MW 557.2
(acid form 491.2)



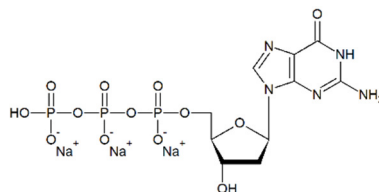
dCTP
2'-deoxycytidine 5'-
triphosphate

$C_9H_{13}N_3O_{13}P_3Na_3$
MW 533.1
(acid form 467.1)



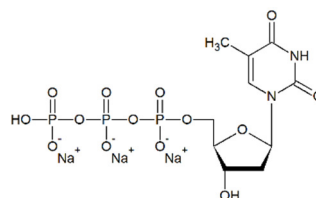
dGTP
2'-deoxyguanosine 5'-
triphosphate

$C_{10}H_{13}N_5O_{13}P_3Na_3$
MW 573.2
(acid form 507.2)



dTTP
2'-deoxythymidine 5'-
triphosphate

$C_{10}H_{14}N_2O_{14}P_3Na_3$
MW 548.1
(acid form 482.1)



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CERTIFICATE OF ANALYSIS

Quality Control

Functional assay

Functionality tested in PCR.

Purity test

The concentration of each lot is verified by optical density spectrometry. The purity of nucleotide triphosphates is determined by HPLC. The minimum passing specification for the triphosphate content is 99%.

Contamination test

The absence of human and *E. coli* DNA is confirmed by qPCR.

Quality confirmed by: Head of Quality Control

SAFETY INSTRUCTIONS

For safety instructions please see Safety Data Sheets (SDS)/Sicherheitshinweise finden Sie in den SDS unter:

<http://www.biotechrabbit.com/support/documentation.html>.

USEFUL HINTS

- Visit Applications at www.biotechrabbit.com for more products and product selection guides.
- Most biotechrabbit products are available in custom formulations and bulk amounts.

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