

dNTPs NZYSet

Catalogue number	Presentation
MB08701	100 mM (4 x 0.25 mL)

Description

dNTP NZYSet consists in a series of separate ready-to-use molecular grade dNTP solutions of dATP, dGTP, dCTP, and dTTP, at pH 8.5 (at 22 °C) and a 100 mM concentration. The dNTPs are supplied in a sodium salt solution.

dNTP NZYSet may be used in DNA polymerization reactions, DNA labelling and sequencing processes. Other specific applications include standard and long-range PCR, cDNA synthesis, real-time PCR or Microarrays.

Shipping & Storage Conditions

The product can be shipped from dry ice to blue ice. Upon arrival, all the components should be stored between -85°C and -15°C in a constant temperature freezer. Avoid multiple freeze-thaw cycles to guarantee maximal shelf life. The product will remain stable until the expiry date if stored as specified.

Components

COMPONENT	MB08701	
	TUBES	VOLUME
dATP 100 mM	1	250 µL
dCTP 100 mM	1	250 µL
dGTP 100 mM	1	250 µL
dTTP 100 mM	1	250 µL

Specifications

Solution conditions: dATP, dCTP, dGTP, and dTTP are individually provided at 100 mM each (pH 8.5 ± 0.2, at 22 °C).

Solution purity: Ultra-pure (>99% trisphosphate by HPLC). Free from PCR inhibitors, DNase, RNase and nickase.

Formula, molecular weight, concentration and other properties:

	dATP	dCTP	dGTP	dTTP
Formula	C10H13N5O12P3	C9H13N3O13P3	C10H13N5O13P3	C10H14N2O14P3
Molecular weight	488.16 g/mol	464.13 g/mol	504.16 g/mol	465.14 g/mol
Concentration	100 mM ± 2%	100 mM ± 2%	100 mM ± 2%	100 mM ± 2%
Form	Sodium salt solution	Sodium salt solution	Sodium salt solution	Sodium salt solution
λ_{max} (pH 7.0)	259 nm	271 nm	252 nm	267 nm
ε at λ_{max} (pH 7.0)	15.1 mM ⁻¹ .cm ⁻¹	8.9 mM ⁻¹ .cm ⁻¹	14.2 mM ⁻¹ .cm ⁻¹	9.5 mM ⁻¹ .cm ⁻¹
A250/A260	0.78 ± 0.02	0.82 ± 0.02	1.15 ± 0.03	0.64 ± 0.02
A280/A260	0.15 ± 0.02	0.97 ± 0.02	0.67 ± 0.02	0.74 ± 0.02

Quality control assays

Genomic DNA contamination

The product must be free of any detectable DNA contamination as evaluated through PCR.

Nuclease assays

Typically, 0.2-0.3 µg of pNZY28 plasmid DNA are incubated with 5 µL of each dNTP, in a standard 1× Reaction Buffer, for 14-16 hours at 37°C. To test for RNase contamination, 1 µg of RNA is incubated with 5 µL of each dNTP, in a standard 1× Reaction Buffer for 1 h at 37°C. Following incubation, the DNA is visualised on a GreenSafe Premium-stained agarose gel. There must be no visible nicking or cutting of the nucleic acid. Similar tests are performed with the reaction buffer.

Functional assay

dNTPs NZYSet are tested for performance in a polymerase chain reaction (PCR) using a range of human genomic DNA dilutions as template and NZYtaq II DNA polymerase. The resulting PCR product is visualized as a single band on a GreenSafe Premium-stained agarose gel.

For life science research only. Not for use in diagnostic procedures.