Amersham dNTP Set (100 mM each A,C,G,T) 28406551

The ultrapure dNTP set can be used in any application which requires very pure reagents. Some typical applications include nucleic acid amplification applications (PCR), cDNA synthesis using reverse transcriptase, oligolabelling reactions, and dideoxy sequencing reactions.

To ensure purity, our syntheses begin with deoxymonophosphates which are completely free of ribonucleotides and contaminating base analogs. The chemically synthesized triphosphate is then purified by ion-exchange FPLC and desalted by C-18 reverse-phase chromatography.

The "ultrapure" solution form of our nucleotides overcomes the inherent instability of highly purified, lyophilized nucleotides which are prone to degradation via a disproportionation reaction. (Disproportionation involves the transfer of a phosphate group from one triphosphate molecule to another triphosphate molecule, resulting in enzymatically inactive diphosphate and tetraphosphate molecules).

The ultrapure dNTP set includes four vials. Each vial contains 25 umoles of a single deoxynucleotide

The four deoxynucleotides supplied are dATP, dCTP, dGTP, and dTTP. Each vial has 250 ul of nucleotide solution at a concentration of 100 mM (pH 7.5). There is no buffer present in the nucleotide solutions.

dATP: cap is blue
dCTP: cap is black
dGTP: cap is red
(d)TTP: cap is natural

Each nucleotide is provided in water at a concentration of 100 mM and at pH 7.5. There is no buffer present in the nucleotide solutions.

Shipping and Storage

Ship on dry ice only. If the nucleotides arrive without ice, they are likely to have degraded via a disproportionation reaction. If the experiment is critical or is sensitive to the nucleotide concentrati on, the nucleotides should not be used.

Store at -20C°.

Thaw and mix thoroughly before use. If the solution is not mixed after thawing, the solutions may have regions of uneven concentration.

Applications

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Specifications

Test	Purpose	Current dNTPs Specifications	NEW Illustra dNTP Specifications
Concentration		100 ±3 mM	100 ±3 mM
pH	Stability and functionality	7.5 ± 0.2	7.5 ± 0.2
Triphosphate purity	HPLC (Mono Q) Separates di and mono phosphates	≥ 98.0% triphosphate	**≥ 99.0% triphosphate**
Base purity	Alkaline phosphatase digestion followed by HPLC (C18). Separates & quantitates contaminating bases	≥ 99.5% correct nucleoside	**≥ 99.5% correct nucleoside**
Functional Test for PCR	Long PCR. Synthesis of a 20.7-kb lambda DNA fragment	Pass	**Pass**
DNases	DNases interfere with DNA amplification and sequencing	Not tested	**Free from DNases**
RNases	RNases interfere with reverse transcription	Not tested	**Free from RNases**
Nicking activity	Nicking interferes with DNA amplification and sequencing	Not tested	**Free from nicking activity**