



## PCR Mixtures and dNTP Sets

Nucleotides for *Tth* DNA Polymerase (UptiTherm), *Taq* DNA Polymerase and reverse transcriptases

### Products Description

• **dNTP Set:** Working solution with separate vials for each nucleotide base

dNTP Set 1: 100mM dATP, dCTP, dGTP, dTTP      UP968640, 4 x 250 µl      UP968641, 20 x 250 µl

dNTP Set 2: 100mM dATP, dCTP, dGTP, dUTP      UP968660, 4 x 250 µl      UP968661, 20 x 250 µl

dNTP Set 3: 10mM dATP, dCTP, dGTP, dTTP      MP3230, 4 x 1 ml

• **Mix PCR:** Ready to use dNTP-Mixtures

Mix PCR 1: 2mM dATP, dCTP, dGTP, dTTP      UP926890, 1 ml      UP926891, 5 x 1 ml

Mix PCR 2: 2mM dATP, dCTP, dGTP, dUTP      UP982160, 1 ml      UP982161, 5 x 1 ml

Mix PCR 3: 10mM dATP, dCTP, dGTP, dTTP      UP984440, 0.2 ml      UP984441, 5 x 0.2 ml

Mix Sep T: Termination mixture A+T+G+C (incl. ddNTP)      UP996780, 4x0.3ml

Store : -20°C (1)

### Technical and Scientific Information

Mixtures contents (nucleotides concentrations):

Nucleotide Component	NTP Set 1 UP96864	dNTP Set 2 UP96866	dNTP Set 3 MP3230	Mix PCR1 UP92689	Mix PCR2 UP98216	Mix PCR 3 UP984440	Mix Seq T* UP996780
dATP-Na <sub>4</sub>	100 mM	100 mM	10 mM	2 mM	2 mM	10 mM	20 µM*
dGTP-Na <sub>4</sub>	100 mM	100 mM	10 mM	2 mM	2 mM	10 mM	20 µM*
dCTP-Na <sub>4</sub>	100 mM	100 mM	10 mM	2 mM	2 mM	10 mM	20 µM*
dTTP-Na <sub>4</sub>	100 mM		10 mM	2 mM		10 mM	20 µM*
dUTP-Na <sub>4</sub>		100 mM			2 mM		
ddNTP*							350mM

\* Content in 4 x 0.3 ml 20%M of each dNTP + 350 µM of one of the 4 ddNTP (ddATP, dGTP, ddCTP, ddTTP)

FT-926890

**Physical data:**

Nucléotide	Formula	Molecular weight	$\lambda_{\max}$ (pH 7.0)	$\epsilon$ at $\lambda_{\max}$
dATP-Na <sub>4</sub>	C <sub>10</sub> H <sub>12</sub> N <sub>5</sub> O <sub>11</sub> P <sub>3</sub> Na <sub>4</sub>	579.13 g/mol	259 nm	15.4 E x mmol <sup>-1</sup> x cm <sup>-1</sup>
dTTP-Na <sub>4</sub>	C <sub>10</sub> H <sub>13</sub> N <sub>2</sub> O <sub>14</sub> P <sub>3</sub> Na <sub>4</sub>	570.10 g/mol	267 nm	9.6 E x mmol <sup>-1</sup> x cm <sup>-1</sup>
dGTP-Na <sub>4</sub>	C <sub>10</sub> H <sub>12</sub> N <sub>5</sub> O <sub>13</sub> P <sub>3</sub> Na <sub>4</sub>	595.18 g/mol	252 nm	13.7 E x mmol <sup>-1</sup> x cm <sup>-1</sup>
dCTP-Na <sub>4</sub>	C <sub>9</sub> H <sub>12</sub> N <sub>3</sub> O <sub>13</sub> P <sub>3</sub> Na <sub>4</sub>	555.11 g/mol	272 nm	9.1 E x mmol <sup>-1</sup> x cm <sup>-1</sup>
dUTP-Na <sub>4</sub>	C <sub>9</sub> H <sub>11</sub> N <sub>2</sub> O <sub>14</sub> P <sub>3</sub> Na <sub>4</sub>	556.10 g/mol	262 nm	10.2 E x mmol <sup>-1</sup> x cm <sup>-1</sup>

## Quality Control Assays

<b>30 kb long range PCR:</b>	suitable
<b>Quantitative PCR:</b>	
Slope:	-3.35 and -3.6
Standard Deviation:	< 1
Cycle threshold (Ct) for 10 pg:	31 and 35
Signal above threshold in the no template control:	no signal
<b>DNase, RNase, Protease, Phosphatase Assay:</b>	no activity detected

**Physical assays**

**Specification**

Purity by HPLC	>99%
Concentration	+/- 5%
pH	6.5 – 7.0

Uptima's dNTP are free of strong PCR inhibiting contaminants as tetraphosphates and pyrophosphates. They have the highest purity. All lots are checked on HPLC for their purity using a sensitive methanol-gradient in KH<sub>2</sub>PO<sub>4</sub> buffer on an Eurospher-100 C18 RP-column. Detection occurs at 254 nm.

## References

Noronha C. and Mullins J., *PCR Methods and Applications 2*, 131-136 (1992)

## Other Information

**Related / associated products**

Product	Catalog Number	Quantity
UptiTherm DNA Polymerase 5U/μl with Mg free Buffer, 50 mM MgCl <sub>2</sub> buffer	<a href="#">UPS53921</a>	1000 Units
Mineral oil	<a href="#">UPS5422A</a>	2 ml
Agarose, regular uses	<a href="#">31272L</a>	500 g
GelRed nucleic acid stain, 10000X in water	<a href="#">BY1740</a>	500 μl

For in vitro R&D use only

Please contact Uptima – Interchim for any other information