



## Certificate of Analysis

COA No: CA BN-0006

Version: 04

### dATP 100mM

For Research Use Only

Storage Conditions: -20°C

Lot number: DA-617109

Expiry date: October 2019

### Quality Control Parameters

### 2'-deoxyadenosine-5'-triphosphate



MW = 514.916 g /mol

Certified &lt;1% deoxynucleoside monophosphates and deoxynucleoside diphosphates

Characteristics	Specification	Result
Concentration (at $\lambda_{\text{max}}$ , pH 7.0, $\epsilon = 15.4 \text{ E} \times \text{mmol}^{-1} \times \text{cm}^{-1}$ )	100 mM $\pm$ 5%	103.5mM
pH of Solution(at 20°C)	7.5 – 8.0	7.50 @ 19.8°C
$\lambda_{\text{max}}$ (at pH 7.0)	259 $\pm$ 1 nm	259.5 nm
A250/A260	0.78 $\pm$ 0.03	0.78
A280/A260	0.15 $\pm$ 0.02	0.14
Purity dATP (HPLC Area % at $\lambda_{\text{max}}$ )	$\geq$ 99%	99.7%
dNDP + dNMP (HPLC Area % at $\lambda_{\text{max}}$ )	<1%	Passed
Appearance	Clear colourless solution	Passed

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Analysis	Specification	Result
Functional	A 3Kb Lambda DNA fragment is amplified with a dilution series of dATP, using standard conditions and 30 cycles. Single distinct bands were observed with agarose gel electrophoresis (ethidium stained).	Passed
DNA contamination	Quantitative PCR analysis with no template. Presence of <i>E. coli</i> and mouse genomic DNA checked. Test sample must amplify in line with a reference sample.	Passed
DNase / RNase / Nicking Activity	Incubation of a 1Kb double stranded DNA fragment. Incubation for 4 hours at 37°C with dilution series of DNase I. Analysed by agarose gel electrophoresis. Test sample must show less degradation than the limit of detection $2.5 \times 10^{-3}$ U DNase.	Passed
	Quantitative PCR analysis with high and low RNase standards. Test sample must show less RNase activity than the limit of detection $9.7 \times 10^{-3}$ ng/ $\mu$ L RNase.	Passed
	Incubation of dATP with supercoiled control plasmid. Analysed by agarose gel electrophoresis. Test sample does not show an increase of linearized or relaxed plasmid.	Passed

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## Certificate of Analysis

COA No: CA BN-0007

Version: 04

### dCTP 100mM

For Research Use Only

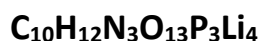
Storage Conditions: -20°C

Lot number: DC-617109

Expiry date: October 2019

### Quality Control Parameters

### 2'-deoxycytidine-5'-triphosphate



MW = 490.891 g/mol

Certified &lt;1% deoxynucleoside monophosphates and deoxynucleoside diphosphates

Characteristics	Specification	Result
Concentration (at $\lambda_{\text{max}}$ , pH 7.0, $\epsilon = 9.1 \text{ E} \times \text{mmol}^{-1} \times \text{cm}^{-1}$ )	100 mM $\pm$ 5%	102.1
pH of Solution(at 20°C)	7.5 – 8.0	7.50 @ 19.9°C
$\lambda_{\text{max}}$ (at pH 7.0)	272 $\pm$ 1 nm	271
A250/A260	0.82 $\pm$ 0.03	0.80
A280/A260	0.98 $\pm$ 0.03	0.97
Purity dCTP (HPLC Area % at $\lambda_{\text{max}}$ )	$\geq$ 99%	>99.8
dNDP + dNMP (HPLC Area % at $\lambda_{\text{max}}$ )	<1%	Passed
Appearance	Clear colourless solution	Passed

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	<h2>Certificate of Analysis</h2>	COA No: CA BN-0007
		Version: 04

Analysis	Specification	Result
Functional	A 3Kb Lambda DNA fragment is amplified with a dilution series of dCTP, using standard conditions and 30 cycles. Single distinct bands were observed with agarose gel electrophoresis (ethidium stained).	Passed
DNA contamination	Quantitative PCR analysis with no template. Presence of <i>E. coli</i> and mouse genomic DNA checked. Test sample must amplify in line with a reference sample.	Passed
DNase / RNase / Nicking Activity	Incubation of a 1Kb double stranded DNA fragment. Incubation for 4 hours at 37°C with dilution series of DNase I. Analysed by agarose gel electrophoresis. Test sample must show less degradation than the limit of detection $2.5 \times 10^{-3}$ U DNase.	Passed
	Quantitative PCR analysis with high and low RNase standards. Test sample must show less RNase activity than the limit of detection $9.7 \times 10^{-3}$ ng/ $\mu$ L RNase.	Passed
	Incubation of dCTP with supercoiled control plasmid. Analysed by agarose gel electrophoresis. Test sample does not show an increase of linearized or relaxed plasmid.	Passed

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## Certificate of Analysis

COA No: CA BN-0008

Version: 04

### dGTP 100mM

For Research Use Only

Storage Conditions: -20°C

Lot number: DG-517209

Expiry date: October 2019

### Quality Control Parameters

### 2'-deoxyguanosine-5'-triphosphate



MW = 530.916 g / mol

Certified &lt;1% deoxynucleoside monophosphates and deoxynucleoside diphosphates

Characteristics	Specification	Result
Concentration (at $\lambda_{\text{max}}$ , pH 7.0, $\epsilon = 13.7 \text{ E} \times \text{mmol}^{-1} \times \text{cm}^{-1}$ )	100 mM $\pm$ 5%	101.8mM
pH of Solution(at 20°C)	7.5 – 8.0	7.5 @ 20.2°C
$\lambda_{\text{max}}$ (at pH 7.0)	252 $\pm$ 1 nm	252.5 nm
A250/A260	1.16 $\pm$ 0.05	1.17
A280/A260	0.66 $\pm$ 0.03	0.67
dNTP (HPLC Area % at $\lambda_{\text{max}}$ )	$\geq$ 99%	>99.7%
dNDP + dNMP (HPLC Area % at $\lambda_{\text{max}}$ )	<1%	Passed
Appearance	Clear colourless solution	Passed

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	<h2>Certificate of Analysis</h2>	COA No: CA BN-0008
		Version: 04

Analysis	Specification	Result
Functional	A 3Kb Lambda DNA fragment is amplified with a dilution series of dGTP, using standard conditions and 30 cycles. Single distinct bands were observed with agarose gel electrophoresis (ethidium stained).	Passed
DNA contamination	Quantitative PCR analysis with no template. Presence of <i>E. coli</i> and mouse genomic DNA checked. Test sample must amplify in line with a reference sample.	Passed
DNase / RNase / Nicking Activity	Incubation of a 1Kb double stranded DNA fragment. Incubation for 4 hours at 37°C with dilution series of DNase I. Analysed by agarose gel electrophoresis. Test sample must show less degradation than the limit of detection $2.5 \times 10^{-3}$ U DNase.	Passed
	Quantitative PCR analysis with high and low RNase standards. Test sample must show less RNase activity than the limit of detection $9.7 \times 10^{-3}$ ng/ $\mu$ L RNase.	Passed
	Incubation of dGTP with supercoiled control plasmid. Analysed by agarose gel electrophoresis. Test sample does not show an increase of linearized or relaxed plasmid.	Passed

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## Certificate of Analysis

COA No: CA BN-0009

Version: 04

### dTTP 100mM

For Research Use Only

Storage Conditions: -20°C

Lot number: DT-517209

Expiry date: October 2019

### Quality Control Parameters

### 2'-deoxythymidine-5'-triphosphate



MW = 505.903 g/mol

Certified &lt;1% deoxynucleoside monophosphates and deoxynucleoside diphosphates

Characteristics	Specification	Result
Concentration (at $\lambda_{\text{max}}$ , pH 7.0, $\epsilon = 9.5 \text{ E} \times \text{mmol}^{-1} \times \text{cm}^{-1}$ )	100 mM $\pm$ 5%	103.9mM
pH of Solution(at 20°C)	7.5 – 8.0	7.51@18.3°C
$\lambda_{\text{max}}$ (at pH 7.0)	267 $\pm$ 1 nm	267.5nm
A250/A260	0.65 $\pm$ 0.03	0.64
A280/A260	0.73 $\pm$ 0.02	0.74
Purity dTTP (HPLC Area % at $\lambda_{\text{max}}$ )	$\geq$ 99%	>99.8%
dNDP + dNMP (HPLC Area % at $\lambda_{\text{max}}$ )	<1%	Passed
Appearance	Clear colourless solution	Passed

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## Certificate of Analysis

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Version: 04

Analysis	Specification	Result
Functional	A 3Kb Lambda DNA fragment is amplified with a dilution series of dTTP, using standard conditions and 30 cycles. Single distinct bands were observed with agarose gel electrophoresis (ethidium stained).	Passed
DNA contamination	Quantitative PCR analysis with no template. Presence of <i>E. coli</i> and mouse genomic DNA checked. Test sample must amplify in line with a reference sample.	Passed
DNase / RNase / Nicking Activity	Incubation of a 1Kb double stranded DNA fragment. Incubation for 4 hours at 37°C with dilution series of DNase I. Analysed by agarose gel electrophoresis. Test sample must show less degradation than the limit of detection $2.5 \times 10^{-3}$ U DNase.	Passed
	Quantitative PCR analysis with high and low RNase standards. Test sample must show less RNase activity than the limit of detection $9.7 \times 10^{-3}$ ng/ $\mu$ L RNase.	Passed
	Incubation of dTTP with supercoiled control plasmid. Analysed by agarose gel electrophoresis. Test sample does not show an increase of linearized or relaxed plasmid.	Passed

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