BIOLINE	**Certificate of Analysis**	**COA No: CA BN-0006**
		Version: 04

dATP 100mM	Storage Conditions:	-20°C
	Lot number:	DA-617106
For Research Use Only	Expiry date:	July 2019

Quality Control Parameters

2'-deoxyadenosine-5'-triphosphate

$C_{10}H_{12}N_5O_{12}P_3Li_4$

MW = 514.916 g /mol

Certified <1% deoxynucleoside monophosphates and deoxynucleoside diphosphates

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

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BIOLINE	**Certificate of Analysis**	**COA No: CA BN-0006**
		Version: 04

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 *E. coli* 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 x 10^{-3} U DNase. Quantitative PCR analysis with high and low RNase standards. Test sample must show less RNase activity than the limit of detection 9.7x10^{-3} ng/µL RNase. 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 Passed Passed

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BIOLINE	**Certificate of Analysis**	**COA No: CA BN-0007**
		Version: 04

dCTP 100mM	Storage Conditions:	-20°C
	Lot number:	DC-617106
For Research Use Only	Expiry date:	July 2019

Quality Control Parameters

2'-deoxycytidine-5'-triphosphate

$C_{10}H_{12}N_3O_{13}P_3Li_4$

MW = 490.891 g /mol

Certified <1% deoxynucleoside monophosphates and deoxynucleoside diphosphates

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

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BIOLINE	**Certificate of Analysis**	**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 *E. coli* 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 x 10^{-3} U DNase. Quantitative PCR analysis with high and low RNase standards. Test sample must show less RNase activity than the limit of detection 9.7x10^{-3} ng/µL RNase. 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 Passed Passed

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BIOLINE	**Certificate of Analysis**	**COA No: CA BN-0008**
		Version: 04

dGTP 100mM	Storage Conditions:	-20°C
	Lot number:	DG-517206
For Research Use Only	Expiry date:	July 2019

Quality Control Parameters

2'-deoxyguanosine-5'-triphosphate

$C_{10}H_{12}N_5O_{13}P_3Li_4$

MW = 530.916 g /mol

Certified <1% deoxynucleoside monophosphates and deoxynucleoside diphosphates

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

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BIOLINE	**Certificate of Analysis**	**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 *E. coli* 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 x 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 9.7x10^{-3} ng/µL 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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BIOLINE	**Certificate of Analysis**	**COA No: CA BN-0009**
		Version: 04

dTTP 100mM	Storage Conditions:	-20°C
	Lot number:	DT-517206
For Research Use Only	Expiry date:	July 2019

Quality Control Parameters

2'-deoxythymidine-5'-triphosphate

$C_{10}H_{13}N_2O_{14}P_3Li_4$

MW = 505.903 g /mol

Certified <1% deoxynucleoside monophosphates and deoxynucleoside diphosphates

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

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BIOLINE	**Certificate of Analysis**	**COA No: CA BN-0009**
		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 *E. coli* 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 x 10^{-3} U DNase. Quantitative PCR analysis with high and low RNase standards. Test sample must show less RNase activity than the limit of detection 9.7x10^{-3} ng/µL RNase. 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 Passed Passed

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