meridian BIOSCIENCE	Certificate of Analysis	COA No: CA_XBN-0006
		Version: 10

dATP 100mM Suitable for Research and further Manufacturing Use		
	Catalog No:	MDX050
	Lot No:	NU064-B335710
	Storage Conditions:	-20°C
	Component Lot No:	DA-425104A
	Expiry date:	May 2027

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%	100.4 mM
pH of Solution(at 20°C)	7.5 – 8.0	7.57 @ 21.7°C
λmax (at pH 7.0)	259 ± 1 nm	259 nm
A250/A260	0.78 ± 0.03	0.77
A280/A260	0.15 ± 0.02	0.15
Purity dATP (HPLC Area % at λmax)	≥99%	99.85%
dNDP + dNMP (HPLC Area % at λmax)	<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 *E. coli* and mouse genomic DNA checked. Test sample must amplify in line with a reference sample.	Passed
DNase	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 2.5×10^{-3} U DNase.	Passed
RNase	Quantitative PCR analysis with high and low RNase standards. Test sample must show less RNase activity than the limit of detection 9.7×10^{-3} ng/µL RNase.	Passed
Nicking Activity	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

QA / QC Representative: J. Rahnenführer Date: 15th April 2025

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meridian BIOSCIENCE	Certificate of Analysis	COA No: CA_XBN-0007
		Version: 10

dCTP 100mM Suitable for Research and further Manufacturing Use		
	Catalog No:	MDX050
	Lot No:	NU064-B335710
	Storage Conditions:	-20°C
	Component Lot No:	DC-225304A
	Expiry date:	May 2027

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%	100.16 mM
pH of Solution(at 20°C)	7.5 – 8.0	7.55 @ 19.6°C
λmax (at pH 7.0)	272 ± 1 nm	271 nm
A250/A260	0.82 ± 0.03	0.80
A280/A260	0.98 ± 0.03	0.96
Purity dCTP (HPLC Area % at λmax)	≥99%	>99.9 %
dNDP + dNMP (HPLC Area % at λmax)	<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 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	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 2.5×10^{-3} U DNase.	Passed
RNase	Quantitative PCR analysis with high and low RNase standards. Test sample must show less RNase activity than the limit of detection 9.7×10^{-3} ng/µL RNase.	Passed
Nicking Activity	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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meridian BIOSCIENCE	Certificate of Analysis	COA No: CA_XBN-0008
		Version: 10

dGTP 100mM Suitable for Research and further Manufacturing Use		
	Catalog No:	MDX050
	Lot No:	NU064-B335710
	Storage Conditions:	-20°C
	Component Lot No:	DG-225304A
	Expiry date:	May 2027

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%	101.91 mM
pH of Solution(at 20°C)	7.5 – 8.0	7.57 @ 22°C
λmax (at pH 7.0)	252 ± 1 nm	252 nm
A250/A260	1.16 ± 0.05	1.19
A280/A260	0.66 ± 0.03	0.67
dNTP (HPLC Area % at λmax)	≥99%	>99.9%
dNDP + dNMP (HPLC Area % at λmax)	<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 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	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 2.5×10^{-3} U DNase.	Passed
RNase	Quantitative PCR analysis with high and low RNase standards. Test sample must show less RNase activity than the limit of detection 9.7×10^{-3} ng/µL RNase.	Passed
Nicking Activity	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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meridian BIOSCIENCE™	Certificate of Analysis	COA No: CA_XBN-0009
		Version: 10

dTTP 100mM Suitable for Research and further Manufacturing Use	Catalog No:	MDX050
	Lot No:	NU064-B335710
	Storage Conditions:	-20°C
	Component Lot No:	DT-425104A
	Expiry date:	May 2027

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%	101.96 mM
pH of Solution(at 20°C)	7.5 – 8.0	7.55 @ 22°C
λmax (at pH 7.0)	267 ± 1 nm	267 nm
A250/A260	0.65 ± 0.03	0.63
A280/A260	0.73 ± 0.02	0.71
Purity dTTP (HPLC Area % at λmax)	≥99%	99.9 %
dNDP + dNMP (HPLC Area % at λmax)	<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 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	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
RNase	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
Nicking Activity	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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