

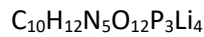
dATP 100mM

Suitable for Research and further Manufacturing Use

| | |
|---------------------|---------------|
| Catalog No: | BIO-39026 |
| Lot No: | DS404-B097840 |
| Storage Conditions: | -20°C |
| Component Lot No: | DA-021207A |
| Expiry date: | August 2023 |

Quality Control Parameters

2'-deoxyadenosine-5'-triphosphate



MW = 514.916 g /mol

Certified <1% deoxynucleoside monophosphates and deoxynucleoside diphosphates

| Characteristics | Specification | Result |
|---|---------------------------|-------------|
| Concentration (at λ_{max} , pH 7.0, $\epsilon = 15.4 \text{ E} \times \text{mmol}^{-1} \times \text{cm}^{-1}$) | 100 mM \pm 5% | 100.9 mM |
| pH of Solution (at 20°C) | 7.5 – 8.0 | 7.51 @ 23°C |
| λ_{max} (at pH 7.0) | 259 \pm 1 nm | 259.5 nm |
| A250/A260 | 0.78 \pm 0.03 | 0.79 |
| A280/A260 | 0.15 \pm 0.02 | 0.13 |
| Purity dATP (HPLC Area % at λ_{max}) | \geq 99% | 99.9% |
| dNDP + dNMP (HPLC Area % at λ_{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 | 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/ μ L 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:



Andrew Galeeba-M

 Date: 2nd August 2021

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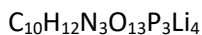
dCTP 100mM

Suitable for Research and further Manufacturing Use

| | |
|---------------------|---------------|
| Catalog No: | BIO-39026 |
| Lot No: | DS404-B097840 |
| Storage Conditions: | -20°C |
| Component Lot No: | DC-021207A |
| Expiry date: | August 2023 |

Quality Control Parameters

2'-deoxycytidine-5'-triphosphate



MW = 490.891 g/mol

Certified <1% deoxynucleoside monophosphates and deoxynucleoside diphosphates

| Characteristics | Specification | Result |
|--|---------------------------|---------------|
| Concentration (at λ_{max} , pH 7.0, $\epsilon = 9.1 E \times mmol^{-1} \times cm^{-1}$) | 100 mM \pm 5% | 101.8 mM |
| pH of Solution (at 20°C) | 7.5 – 8.0 | 7.50 @ 20.8°C |
| λ_{max} (at pH 7.0) | 272 \pm 1 nm | 271 nm |
| A250/A260 | 0.82 \pm 0.03 | 0.79 |
| A280/A260 | 0.98 \pm 0.03 | 0.95 |
| Purity dCTP (HPLC Area % at λ_{max}) | \geq 99% | 100 % |
| dNDP + dNMP (HPLC Area % at λ_{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 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 | 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/ μ L 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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dGTP 100mM

Suitable for Research and further Manufacturing Use

| | |
|---------------------|---------------|
| Catalog No: | BIO-39026 |
| Lot No: | DS404-B097840 |
| Storage Conditions: | -20°C |
| Component Lot No: | DG-021207A |
| Expiry date: | August 2023 |

Quality Control Parameters

2'-deoxyguanosine-5'-triphosphate



MW = 530.916 g /mol

Certified <1% deoxynucleoside monophosphates and deoxynucleoside diphosphates

| Characteristics | Specification | Result |
|---|---------------------------|---------------|
| Concentration (at λ_{max} , pH 7.0, $\epsilon = 13.7 \text{ E x mmol}^{-1} \text{ x cm}^{-1}$) | 100 mM \pm 5% | 101.5 mM |
| pH of Solution(at 20°C) | 7.5 – 8.0 | 7.59 @ 21.4°C |
| λ_{max} (at pH 7.0) | 252 \pm 1 nm | 252 nm |
| A250/A260 | 1.16 \pm 0.05 | 1.17 |
| A280/A260 | 0.66 \pm 0.03 | 0.67 |
| dNTP (HPLC Area % at λ_{max}) | \geq 99% | 99.9% |
| dNDP + dNMP (HPLC Area % at λ_{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 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 | 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/ μ L 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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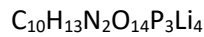
dTTP 100mM

Suitable for Research and further Manufacturing Use

| | |
|---------------------|---------------|
| Catalog No: | BIO-39026 |
| Lot No: | DS404-B097840 |
| Storage Conditions: | -20°C |
| Component Lot No: | DT-121107A |
| Expiry date: | August 2023 |

Quality Control Parameters

2'-deoxythymidine-5'-triphosphate



MW = 505.903 g/mol

Certified <1% deoxynucleoside monophosphates and deoxynucleoside diphosphates

| Characteristics | Specification | Result |
|--|---------------------------|-------------|
| Concentration (at λ_{max} , pH 7.0, $\epsilon = 9.5 \text{ E} \times \text{mmol}^{-1} \times \text{cm}^{-1}$) | 100 mM \pm 5% | 102.05 mM |
| pH of Solution (at 20°C) | 7.5 – 8.0 | 7.60 @ 22°C |
| λ_{max} (at pH 7.0) | 267 \pm 1 nm | 267 nm |
| A250/A260 | 0.65 \pm 0.03 | 0.64 |
| A280/A260 | 0.73 \pm 0.02 | 0.72 |
| Purity dTTP (HPLC Area % at λ_{max}) | \geq 99% | >99.9% |
| dNDP + dNMP (HPLC Area % at λ_{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 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 | 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/ μ L 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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