

For life science research only.
Not for use in diagnostic procedures.



Dideoxynucleoside Triphosphate Set Sequencing Grade

 **Version: 06**
Content Version: July 2021

Sodium salt solution.

Cat. No. 03 732 738 001 4 x 1 μ mol
4 x 100 μ l, 10 mM

Store the product at -15 to -25°C .

| | | |
|-----------|---|----------|
| 1. | General Information | 3 |
| 1.1. | Contents | 3 |
| 1.2. | Storage and Stability | 3 |
| | Storage Conditions (Product) | 3 |
| 1.3. | Additional Equipment and Reagent required | 3 |
| 1.4. | Application | 3 |
| 2. | How to Use this Product | 4 |
| 2.1. | Protocols | 4 |
| | Preparation of termination mix | 4 |
| 2.2. | Parameters | 4 |
| | Purity | 4 |
| 3. | Additional Information on this Product | 4 |
| 3.1. | Quality Control | 4 |
| 4. | Supplementary Information | 5 |
| 4.1. | Conventions | 5 |
| 4.2. | Changes to previous version | 5 |
| 4.3. | Ordering Information | 5 |
| 4.4. | Trademarks | 6 |
| 4.5. | License Disclaimer | 6 |
| 4.6. | Regulatory Disclaimer | 6 |
| 4.7. | Safety Data Sheet | 6 |
| 4.8. | Contact and Support | 6 |

1. General Information

1.1. Contents

| Vial / bottle | Label | Function / description | Content |
|---------------|---|--|----------------|
| 1 | Dideoxynucleoside Triphosphate Set, Sequencing Grade, ddATP, Sequencing Grade | 10 mM clear, colorless sodium salt solutions in water, pH 8.3. | 1 vial, 100 µl |
| 2 | Dideoxynucleoside Triphosphate Set, Sequencing Grade, ddCTP, Sequencing Grade | | 1 vial, 100 µl |
| 3 | Dideoxynucleoside Triphosphate Set, Sequencing Grade, ddGTP, Sequencing Grade | | 1 vial, 100 µl |
| 4 | Dideoxynucleoside Triphosphate Set, Sequencing Grade, ddTTP, Sequencing Grade | | 1 vial, 100 µl |

1.2. Storage and Stability

Storage Conditions (Product)

When stored at –15 to –25°C, the product is stable through the expiry date printed on the label.

| Vial / bottle | Label | Storage |
|---------------|-------------------------|------------------------|
| 1 | ddATP, Sequencing Grade | Store at –15 to –25°C. |
| 2 | ddCTP, Sequencing Grade | |
| 3 | ddGTP, Sequencing Grade | |
| 4 | ddTTP, Sequencing Grade | |

1.3. Additional Equipment and Reagent required

For preparation of termination mix

- dATP*
- dCTP*
- dGTP*
- dTTP*

1.4. Application

2',3'-Dideoxynucleoside triphosphates inhibit the chain elongation of a given primer catalyzed by a DNA polymerase, such as Klenow enzyme, and are therefore used for DNA sequencing.

- Sequencing is achieved by including in each reaction, a dideoxynucleotide that acts as a chain terminator.
- Four reactions are set up, each containing the same template and primer, but a chain terminator specific for A, C, G, or T. Because only a small amount of the chain terminator is included, incorporation into the new DNA strand is a random event.
- Each reaction therefore generates a collection of fragments, but every DNA strand will end at the same type of base (A, C, G, or T).

2. How to Use this Product

2.1. Protocols

Preparation of termination mix

Before preparing the termination mix, dilute an appropriate volume of each Dideoxynucleotide in water to a concentration of 10 μM .

1 For maximum recovery of the contents, briefly spin vials in a microcentrifuge before opening.

2 To a autoclaved microcentrifuge tube on ice, add the following components:

| Reagent | Volume [μl] | Final conc. [μM] |
|------------------------|--------------------------|-------------------------------|
| 1 mM dATP* | 5 | 100 |
| 1 mM dCTP* | 5 | 100 |
| 1 mM dGTP* | 5 | 100 |
| 1 mM dTTP* | 5 | 100 |
| 10 μM ddNTP | 2 | 0.4 |
| Water | 28 | - |
| Final Volume | 50 | |

3 Gently vortex the mixture to produce a homogeneous reaction.
– Centrifuge briefly to collect the sample at the bottom of the tube.

2.2. Parameters

Purity

$\geq 98\%$ ddNTP (HPLC), $\leq 1.5\%$ ddNDP (HPLC)

Manufactured and tested for application in sequencing reactions.

3. Additional Information on this Product

3.1. Quality Control

For lot-specific certificates of analysis, see section, **Contact and Support**.

4. Supplementary Information




4.1. Conventions

To make information consistent and easier to read, the following text conventions and symbols are used in this document to highlight important information:

Text convention and symbols

 *Information Note: Additional information about the current topic or procedure.*

 **Important Note: Information critical to the success of the current procedure or use of the product.**

   etc. Stages in a process that usually occur in the order listed.

   etc. Steps in a procedure that must be performed in the order listed.

* (Asterisk) The Asterisk denotes a product available from Roche Diagnostics.

4.2. Changes to previous version

Layout changes.

Editorial changes.

4.3. Ordering Information

| Product | Pack Size | Cat. No. |
|----------------|--|----------------|
| Reagents, kits | | |
| dATP | 250 µl, 25 µmol, 100 mM, 6,250 standard PCR assays of 20 µl each. | 11 934 511 001 |
| | 1,250 µl, 125 µmol, 100 mM, 31,250 standard PCR assays of 20 µl each. | 11 969 013 001 |
| | 4 x 1,250 µl, 4 x 125 µmol, 100 mM, 125,000 standard PCR assays of 20 µl each. | 03 732 681 001 |
| dCTP | 250 µl, 25 µmol, 100 mM, 6,250 standard PCR assays of 20 µl each. | 11 934 520 001 |
| | 1,250 µl, 125 µmol, 100 mM, 31,250 standard PCR assays of 20 µl each. | 11 969 021 001 |
| | 4 x 1,250 µl, 4 x 125 µmol, 100 mM, 125,000 standard PCR assays of 20 µl each. | 03 732 690 001 |
| dGTP | 250 µl, 25 µmol, 100 mM, 6,250 standard PCR assays of 20 µl each. | 11 934 538 001 |
| | 1,250 µl, 125 µmol, 100 mM, 31,250 standard PCR assays of 20 µl each. | 11 969 030 001 |
| | 4 x 1,250 µl, 4 x 125 µmol, 100 mM, 125,000 standard PCR assays of 20 µl each. | 03 732 703 001 |
| dTTP | 250 µl, 25 µmol, 100 mM, 6,250 standard PCR assays of 20 µl each. | 11 934 546 001 |
| | 1,250 µl, 125 µmol, 100 mM, 31,250 standard PCR assays of 20 µl each. | 11 969 048 001 |

4. Supplementary Information

4.4. Trademarks

All product names and trademarks are the property of their respective owners.

4.5. License Disclaimer

For patent license limitations for individual products please refer to:

List of biochemical reagent products.

4.6. Regulatory Disclaimer

For life science research only. Not for use in diagnostic procedures.

4.7. Safety Data Sheet

Please follow the instructions in the Safety Data Sheet (SDS).

4.8. Contact and Support

To ask questions, solve problems, suggest enhancements or report new applications, please visit our **Online Technical Support Site.**

To call, write, fax, or email us, visit **sigma-aldrich.com**, and select your home country. Country-specific contact information will be displayed.

