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Digoxigenin-11-ddUTP

 **Version: 19**

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DIG-11-ddUTP

Digoxigenin-3-O-succinyl- ϵ -aminocaproyl-[5-(3-aminoallyl)-2',3'-dideoxy-uridine-5'-triphosphate]
tetralithium salt

Cat. No. 11 363 905 910 25 nmol
 25 μ l, 1 mM

Store the product at -15 to -25°C .

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1. General Information

1.1. Contents

Vial / Bottle	Label	Function / Description	Content
1	Digoxigenin-11-ddUTP	1 mM tetralithium salt solution.	1 vial, 25 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	Digoxigenin-11-ddUTP	Store at –15 to –25°C. ⚠ A decomposition of approximately 5% may occur within 6 months.

1.3. Additional Equipment and Reagent required

For oligonucleotide labeling

i The 5x Reaction buffer and CoCl₂ solution are supplied with the Terminal Transferase*.

- Reaction buffer, 5x conc.: 1 M Potassium cacodylate, 125 mM Tris-HCl, 1.25 mg/ml BSA (pH 6.6 at +25°C)
- CoCl₂ solution, 25 mM
- Terminal Transferase, recombinant*: 400 U in 60 mM potassium phosphate (pH 7.2 at +4°C), 150 mM KCl, 1 mM 2-mercaptoethanol, 0.5% Triton X-100, 50% glycerol
- Autoclaved, double-distilled water or Water, PCR Grade*
- Water bath

For oligonucleotide detection

- DIG Nucleic Acid Detection Kit* or
- DIG Luminescent Detection Kit*
- Nylon Membranes*
- CSPD*
- CDP-Star*

1.4. Application

DIG-11-ddUTP can be used for a variety of applications:

- Preferentially used for 3'-end labeling of oligonucleotides with Terminal Transferase, recombinant*.
- Common hybridization techniques.
- DIG-labeled oligonucleotides are especially useful for screening expression libraries for sequence-specific DNA binding proteins, such as transcription factors.
- Substrate for Terminal Transferase*, DNA polymerase I* (holoenzyme and Klenow fragment), T4 DNA Polymerase*, Taq DNA Polymerase*, and Reverse Transcriptase (Transcriptor Reverse Transcriptase*).
- DIG-labeled oligonucleotides can be used as a hybridization probe for DNA and RNA transfers, colony and plaque screening, and *in situ* hybridization.

2. How to Use this Product

2.1. Before you Begin

Sample Materials

DIG-11-ddUTP is used with HPLC or gel-purified oligonucleotides.

2.2. Protocols

Oligonucleotide 3'-end labeling reaction

The following protocol describes a standard labeling reaction using DIG-11-ddUTP.

⚠ Do not increase the amount of oligonucleotide in the standard labeling reaction. Larger amounts may be labeled by increasing the reaction volume and components proportionally.

1 Dissolve the oligonucleotide in Water, PCR Grade.

2 Add the following to a microcentrifuge tube on ice:

Reagent	Volume [μl]
Reaction buffer, 5x conc.	4
CoCl ₂ solution	4
Freshly denatured oligonucleotide, 100 pmol	X
DIG-11-ddUTP solution	1
Terminal Transferase, rec. 400 U	1
Autoclaved, double-distilled, water	X
Final Volume	20

- Mix and centrifuge briefly.
- Incubate for 15 minutes at +37°C.

3 Use the labeled probe immediately or store in aliquots at –15 to –25°C.

Labeling efficiency

For the semi-quantitative detection of labeling efficiency, use the direct detection method in the DIG Nucleic Acid Detection Kit* protocol in comparison to standardized DIG-labeled control oligonucleotides.

Immunological detection

For the immunological detection with subsequent color reaction, refer to the Instructions for Use of the DIG Nucleic Acid Detection Kit*. For chemiluminescent detection of nucleic acids on Nylon Membranes*, see the Instructions for Use of CSPD*, CDP-Star*, or the DIG Luminescent Detection Kit*.

2.3. Parameters

Chemical Formula



Chemical Name

Structural formula

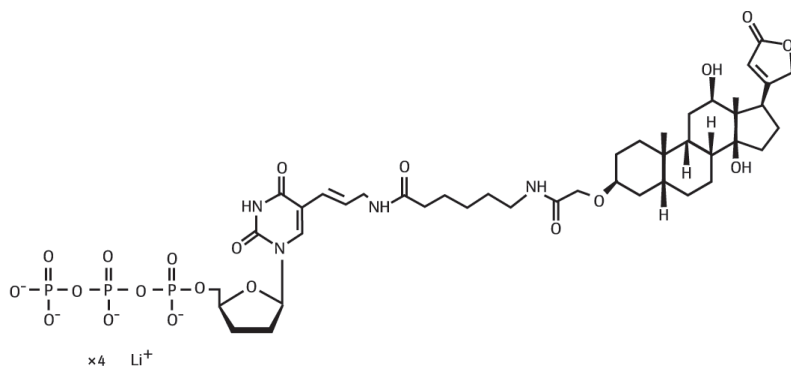


Fig. 1: Chemical structure of Digoxigenin-11-ddUTP

Molecular Weight

1,074.6 Da

3. Supplementary Information

3.1. 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

i *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.

① ② ③ etc. Stages in a process that usually occur in the order listed.

① ② ③ etc. Steps in a procedure that must be performed in the order listed.

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

3.2. Changes to previous version

Layout changes.

Editorial changes.

3.3. Ordering Information

Product	Pack Size	Cat. No.
Reagents, kits		
DIG Gel Shift Kit, 2 nd Generation	1 kit, 20 Oligonucleotide 3'-end labeling reactions with DIG-11-ddUTP, 200 binding reactions, chemiluminescent detection reaction for 20 blots, DNA binding protein and oligonucleotide for 20 control reactions	03 353 591 910
DIG Luminescent Detection Kit	1 kit, 50 blots with a size of 10 x 10 cm ²	11 363 514 910
CSPD, ready-to-use	2 x 50 ml	11 755 633 001
CDP-Star, ready-to-use	2 x 50 ml	12 041 677 001
Nylon Membranes, positively charged	10 sheets, 20 x 30 cm	11 209 272 001
	20 sheets, 10 x 15 cm	11 209 299 001
	1 roll, 0.3 x 3 m	11 417 240 001
Taq DNA Polymerase, 5 U/μl	custom fill, 5 U/μl	11 147 633 103
DNA Polymerase I	250 U	10 642 711 001
	1,000 U	10 642 720 001
Terminal Transferase, recombinant	custom fill	03 289 869 103
Taq DNA Polymerase, 1 U/μl	250 U, 1 U/μl, 200 reactions in a final volume of 50 μl	11 647 679 001
	1,000 U, 4 x 250 U, 800 reactions in a final volume of 50 μl	11 647 687 001
Water, PCR Grade	25 ml, 25 x 1 ml	03 315 932 001
	25 ml, 1 x 25 ml	03 315 959 001
	100 ml, 4 x 25 ml	03 315 843 001
DIG Nucleic Acid Detection Kit	1 kit, Detection of 40 blots of 10 cm x 10 cm	11 175 041 910

3.4. Trademarks

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

3.5. License Disclaimer

For patent license limitations for individual products please refer to:

List of biochemical reagent products.

3.6. Regulatory Disclaimer

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

3.7. Safety Data Sheet

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

3.8. 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.

