

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



DNA Molecular Weight Marker III, DIG-labeled

 **Version: 21**

Content Version: June 2021

Fragment sizes: 0.125 to 21.2 kbp

Cat. No. 11 218 603 910 5 µg
500 µl

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	DNA Molecular Weight Marker III, DIG-labeled	Ready-to-use solution in 10 mM Tris-HCl, 1 mM EDTA; pH 8.0, (10 µg/ml).	1 vial, 5 µg (500 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	DNA Molecular Weight Marker III, DIG-labeled	Store at –15 to –25°C.

1.3. Additional Equipment and Reagent required

For detection of DIG-labeled DNA

- DIG Nucleic Acid Detection Kit*
- DIG Luminescent Detection Kit*

1.4. Application

Use the DNA Molecular Weight Marker III, DIG-labeled as a size standard in Southern blot analysis when using the DIG system for nucleic acid labeling and detection.

2. How to Use this Product

2.1. Before you Begin

General Considerations

Size distribution

Fragment mixture prepared by cleavage of λ DNA with Eco RI and Hind III. The mixture contains 13 fragments with the following base pair (bp) lengths:

bp												
21,226	5,148	4,973	4,268	3,530	2,027	1,904	1,584	1,375	947	831	564	125

Optimization

The following table provides guidelines to determine incubation times and amounts of marker to use in hybridization assays.

Hybridization assays with...	require...
high degrees of homology between reassociated sequences, which lead to strong signals	▪ short incubation times for substrate reactions. ▪ 50 to 100 ng (5 to 10 μl) DNA Molecular Weight Marker III, DIG-labeled for each marker lane.
low amounts of transferred nucleic acids or lower degree of sequence homology	▪ longer incubation times for substrate reactions. ▪ 20 to 50 ng (2 to 5 μl) DNA Molecular Weight Marker III, DIG-labeled for each marker lane.

2.2. Protocols

Membrane transfer

- 1 Denature and neutralize the fragments before starting the transfer.
- 2 Transfer DNA Molecular Weight Markers directly to membranes after gel electrophoresis.
 ⚠ **Alkaline transfer using NaOH-transfer buffer will deteriorate the DIG-label.**

Detection of DIG-labeled DNA

- 1 After fixation of the labeled fragments by baking or UV-irradiation, detect the signal as described in the DIG Nucleic Acid Detection Kit* or the DIG Luminescent Detection Kit*.
 ⚠ **Fragments are present in molar ratios and therefore, the smallest band can only be detected on blots of overloaded gels after overnight detection.**

3. Additional Information on this Product

3.1. Test Principle

Labeling

A photodigoxigenin has been introduced at approximately every 200th to 300th base in the DNA fragments.

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	
 <i>Information Note: Additional information about the current topic or procedure.</i>	
 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.

4.2. Changes to previous version

Layout changes.

Editorial changes.

4.3. Ordering Information

Product	Pack Size	Cat. No.
Reagents, kits		
DIG Nucleic Acid Detection Kit	1 kit, Detection of 40 blots of 10 cm x 10 cm	11 175 041 910
DIG Luminescent Detection Kit	1 kit, 50 blots of 10 cm x 10 cm	11 363 514 910

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.

