

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



DNA Molecular Weight Marker XIII

50 bp ladder

 **Version: 10**
Content Version: August 2021

Fragment sizes: 50 to 750 bp

Cat. No. 11 721 925 001 50 µg
 200 µl
 50 gel lanes

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 XIII	<ul style="list-style-type: none"> Ready-to-use solution in 10 mM Tris-HCl, 1 mM EDTA, pH 8.0, (250 µg/ml). 50 µg corresponds to 1 A₂₆₀ unit. 	1 Vial, 50 µg (200 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 XIII	Store at –15 to –25°C. After thawing, store at +2 to +8°C. ⚠ Avoid repeated freezing and thawing.

1.3. Additional Equipment and Reagent required

For size determination

- DNA Molecular Weight Marker XIV (100 bp ladder)*

For end-labeling reactions

- Digoxigenin-11-ddUTP*
- Terminal Transferase*, or
- Radioactive dideoxynucleotides

1.4. Application

Use DNA Molecular Weight Marker XIII as a size standard for DNA in agarose gels.

- The 50 bp ladder allows accurate sizing of DNA fragments generated by PCR or restriction digest separated on agarose gels.
- Use in conjunction with DNA Molecular Weight Marker XIV (100 bp ladder*) for precise size determination.
- The fragments have 5'-protruding ends and can be labeled with radioactive nucleotides, such as [³²P]-dTTP or [³²P]-dGTP by standard filling-in reactions.
- End-labeling reactions can be performed with a radioactive or nonradioactive dideoxynucleotide, such as DIG-11-ddUTP* and Terminal Transferase*.

2. How to Use this Product

2.1. Before you Begin

General Considerations

Size distribution

Fragment mixture prepared by cleavage of a specially constructed plasmid with restriction endonucleases. The mixture contains 15 double-stranded DNA fragments with the following base pair lengths (1 base pair = 660 daltons).

i *Fragment lengths are derived from computer analysis of the SPP1 sequence.*

bp														
750	700	650	600	550	500	450	400	350	300	250	200	150	100	50

The 250 bp and 500 bp banding pattern is two to three times brighter.

i *There is an additional band at 2,642 bp.*

3. Results

Typical analysis

The DNA fragment mixture shows the typical pattern of 15 bands and an additional band of 2,642 bp in agarose gel electrophoresis, see Figure 1.

- After gel electrophoresis of 1 µg of the fragment mixture in a 2% Agarose MP* gel, 15 bands and an additional one are visible.

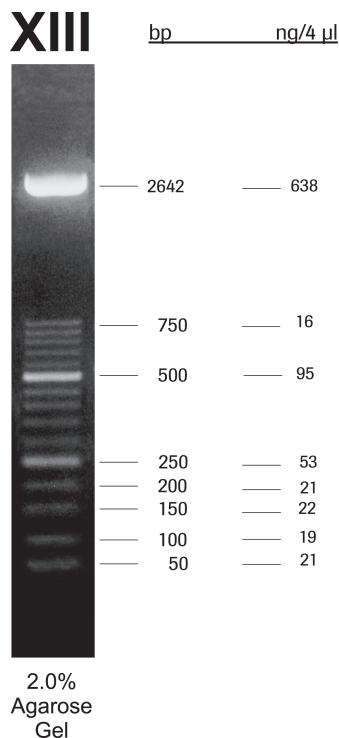


Fig. 1: Separation of 1 µg DNA Molecular Weight Marker XIII on a 2% Agarose MP gel, stained with ethidium bromide.

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.**

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		
Digoxigenin-11-ddUTP	25 nmol, 25 µl, 1 mM	11 363 905 910
Terminal Transferase	8,000 U, 400 U/µl, 20 tailing or 3'-end labeling reactions (400 U per reaction)	03 333 566 001
	24,000 U, 400 U/µl, 60 tailing or 3'-end labeling reactions (400 U per reaction)	03 333 574 001
DNA Molecular Weight Marker XIV	50 µg, 200 µl, 50 gel lanes	11 721 933 001

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.

