

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



DNA Molecular Weight Marker XV

Expand DNA Molecular Weight Marker

 **Version: 10**

Content Version: August 2021

Cat. No. 11 721 615 001 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 XV | <ul style="list-style-type: none"> Ready-to-use solution in 10 mM Tris-HCl, 1 mM EDTA, pH 8.0, (100 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 XV | 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

- Expand Long Template PCR System*

1.4. Application

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

- Allows accurate sizing of DNA fragments generated by the Expand Long Template PCR System*, or restriction digest of high molecular weight DNA, cleaved with rare-cutting restriction endonucleases and separated on agarose gels.

2. How to Use this Product

2.1. Before you Begin

General Considerations

Size distribution

Fragment mixture prepared by cleavage of λDNA with various endonucleases. The mixture contains 24 DNA fragments with the following base pair lengths (1 base pair = 660 daltons).

| bp | | | | | | | | | | | |
|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 48,502 | 38,412 | 32,745 | 29,027 | 26,718 | 24,918 | 22,010 | 20,323 | 19,944 | 18,780 | 16,710 | 15,262 |
| (undigested) | | | | | | | | | | | |
| 15,258 | 14,183 | 13,282 | 12,379 | 11,848 | 11,205 | 10,086 | 9,688 | 8,113 | 7,601 | 3,574 | 2,392 |

3. Results

Additional information

- Add 300 to 500 ng (3 to 5 μ l) per lane.
 - Prior to electrophoresis, heat for 5 minutes at +65°C.
 - Place on ice or load directly on the gel.
 - For optimal separation of all fragments, 40 hours electrophoresis time is required.
- i** Using shorter electrophoresis times, such as 18 to 22 hours, all bands are well resolved except those between 24,918 and 2,9027 bp, which run in close proximity. The fragments of 3,574 and 2,392 bp are only visible with shorter electrophoresis times, such as 18 to 22 hours; with increasing electrophoresis time, they become diffuse or run out of the agarose gel.

3. Results

Typical analysis

The DNA fragment mixture shows the typical pattern of 20 bands in agarose gel electrophoresis, see Figure 1.

- After gel electrophoresis of 1 μ g of the fragment mixture in a 0.4% Agarose MP* gel, 20 bands are visible.
- The 19,944 bp and 20,323 bp fragments and the 15,258 bp and 15,262 bp fragments run as one band.
- The 3,574 and 2,392 bp fragments are only visible with an electrophoresis time of 18 to 22 hours.
- The 9,688 bp, 13,282 bp, and 22,010 bp DNA fragments appear brighter on a 0.4% agarose gel.
- The 48,502, 38,412, 32,745, 29,027, 26,718, 20,323, 19,944, 15,262, 15,258, 14,183, 12,379, 11,848, 11,205, 10,086, 9,688 and 8,113 bp DNA fragments contain the 12-base sticky ends (cos-side) of λ DNA.

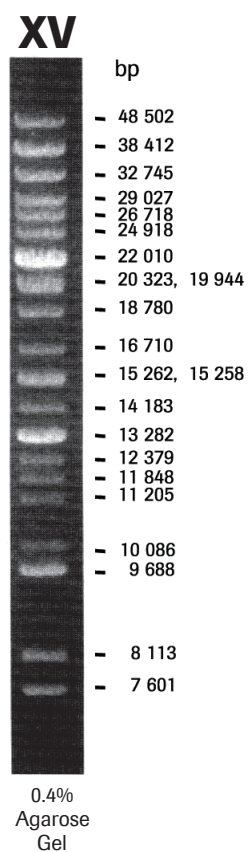


Fig. 1: Separation of DNA Molecular Weight Marker XV on a 0.4% Agarose MP gel, 20 V, 40 hours, stained with ethidium bromide.

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 | | |
| Expand Long Template PCR System | 150 U, 1 x 150 U, 38 reactions in a final volume of 50 µl | 11 681 834 001 |
| | 720 U, 2 x 360 U, 190 reactions in a final volume of 50 µl | 11 681 842 001 |
| | 3,600 U, 10 x 360 U, 950 reactions in a final volume of 50 µl | 11 759 060 001 |

4. Supplementary Information

4.4. Trademarks

EXPAND is a trademark of Roche.

All other 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.

