

O'RangeRuler 500 bp DNA Ladder, ready-to-use

Catalog Number SM0643

Pub. No. MAN0013025 Rev. D00



WARNING! Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from [thermofisher.com/support](https://www.thermofisher.com/support).

Contents and storage

Cat. No.	Contents	Amount	Storage
SM0643	O'RangeRuler 500 bp DNA Ladder, ready-to-use	25 µg (for 100 applications), 0.05 µg/µL	at room temperature or at 4 °C for periods up to 24 months.*
	6X Orange DNA Loading Dye	1 mL	

*For longer periods store at -20 °C.

Description

Thermo Scientific™ O'RangeRuler™ 500 bp DNA Ladder is dissolved in storage and loading buffer at a final DNA concentration of 0.05 µg/µL and can be directly applied onto an agarose gel. This DNA ladder consists of 12 ligated, evenly spaced DNA fragments ranging from 500 bp to 6000 bp at 500 bp increments, containing pUC, λ phage and yeast genome sequences. The ladder contains the following 12 discrete fragments (in base pairs): **6000**, 5500, 5000, 4500, 4000, 3500, 3000, 2500, **2000**, 1500, 1000 and 500. The brighter bands (6000 and 2000 bp) serve as reference bands.

Storage and Loading Buffer

10 mM Tris-HCl (pH 7.6), 10 mM EDTA, 0.025 % orange G, 0.005 % xylene cyanol FF and 10 % glycerol.

6X Orange DNA Loading Dye

10 mM Tris-HCl (pH 7.6), 0.15 % orange G, 0.03 % xylene cyanol FF, 60 % glycerol and 60 mM EDTA.

Protocol for Loading

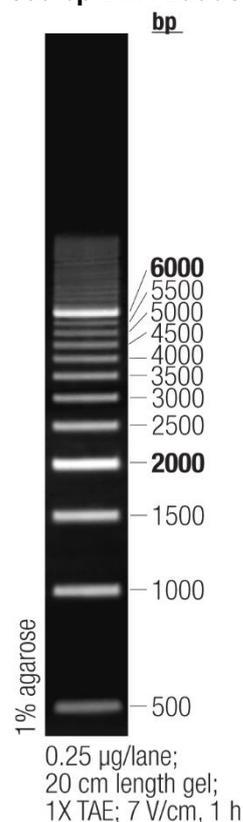
Step 1: Mix gently

Step 2: Load 1 µL per 1 mm gel lane.

Recommendations

- Do not heat before loading.
- Dilute your DNA sample with the 6X Orange DNA Loading Dye (#R0631, supplied with the ladder). Mix 1 volume of the dye solution with 5 volumes of the DNA sample.
- Not designed for DNA quantification.
- The O'RangeRuler 500 bp DNA Ladder may show additional bands of low intensity in agarose gels. These are circular form of the DNA ligation products.
- For DNA band visualization with SYBR™ Green and other intercalating dyes, do not add the dyes into the sample, use gel staining after electrophoresis or include dyes into agarose gel to avoid aberrant DNA migration.
- **Important note:** For DNA bands visualization with GelRed™ use gel staining after electrophoresis to avoid aberrant DNA migration.

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Revision history: Pub. No. MAN0013025

Revision	Date	Description
D00	2025-04-08	Extended storage at room temperature to 24 months

Limited product warranty

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For descriptions of symbols on product labels or product documents, go to thermofisher.com/symbols-definition.

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