

# O'RangeRuler 5 bp DNA Ladder, ready-to-use

Catalog Number SM1303

Pub. No. MAN0013044 Rev. E00



**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
SM1303	O'RangeRuler 5 bp DNA Ladder, ready-to-use	50 µg (for 50-100 applications), 0.1 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™ 5 bp DNA Ladder is designed for precise sizing of PCR products and other small double-stranded DNA fragments in high percentage agarose or non-denaturing polyacrylamide gels. It is a 5 bp step ladder, especially useful for determining 5 bp differences between DNA fragments.

The ladder consists of purified and ligated blunt-end basic unit repeats of 10 and 15 bp, and it is not suitable for DNA quantification on the gel. The ladder contains the following 19 discrete fragments (in base pairs): **100**, 95, 90, 85, 80, 75, 70, 65, 60, 55, **50**, 45, 40, 35, 30, 25, 20, 15 and 10. The brighter bands (50 and 100 bp) serve as reference bands. The ladder is ready to use – it is premixed with the 6X Orange DNA Loading Dye for direct loading on gels.

## 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

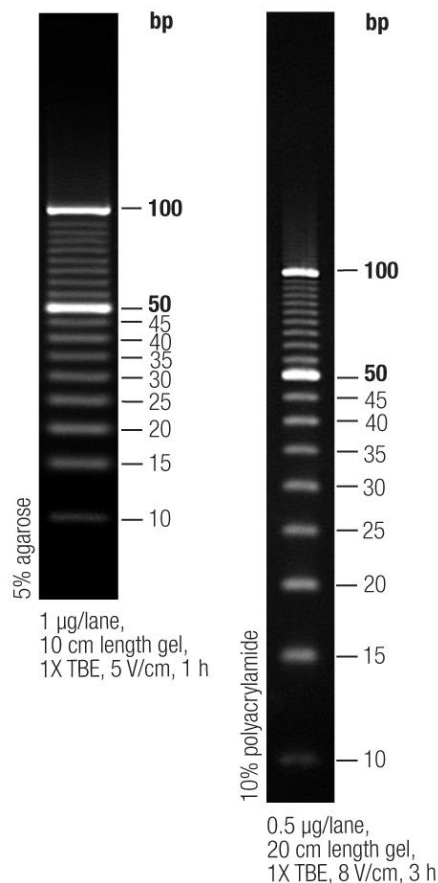
**Step 1:** Mix gently

**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. Mix 1 volume of the dye solution with 5 volumes of the DNA sample.
- 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 band visualization with GelRed™ use gel staining after electrophoresis to avoid aberrant DNA migration.

## O'RangeRuler 5 bp DNA Ladder, ready-to-use



Revision history: Pub. No. MAN0013044

Revision	Date	Description
E00	2025-04-08	Extended storage at room temperature to 24 months

## Limited product warranty

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