

O'RangeRuler 50 bp DNA Ladder, ready-to-use

Catalog Number SM0613

Pub. No. MAN0013022 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
SM0613	O'RangeRuler™ 50 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™ 50 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 or non-denaturing polyacrylamide gels. This DNA ladder consists of 20 ligated, evenly spaced DNA fragments ranging from 50 bp to 1000 bp at 50 bp increments, containing pUC, λ phage and yeast genome sequences. The ladder contains the following 20 discrete fragments (in base pairs): **1000**, 950, 900, 850, 800, 750, 700, 650, 600, 550, **500**, 450, 400, 350, 300, 250, **200**, 150, 100 and 50. The brighter bands (1000, 500 and 200 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

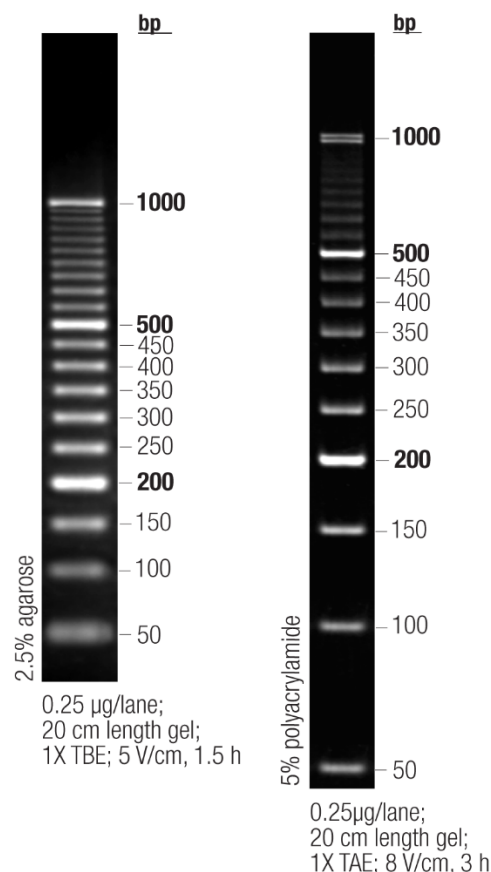
Step 1: Mix gently

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.
- Not designed for denaturing polyacrylamide gel.
- The O'RangeRuler 50 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.

O'RangeRuler 50 bp DNA Ladder, ready-to-use



Revision history: Pub. No. MAN0013022

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

Limited product warranty

Life Technologies Corporation and/or its affiliate(s) warrant their products as set forth in the Life Technologies' General Terms and Conditions of Sale at www.thermofisher.com/us/en/home/global/terms-and-conditions.html. If you have any questions, please contact Life Technologies at www.thermofisher.com/support.



Thermo Fisher Scientific Baltics UAB | V.A. Graiciuno 8, LT-02241 Vilnius, Lithuania
For descriptions of symbols on product labels or product documents, go to thermofisher.com/symbols-definition.

The information in this guide is subject to change without notice.

DISCLAIMER: TO THE EXTENT ALLOWED BY LAW, THERMO FISHER SCIENTIFIC INC. AND/OR ITS AFFILIATE(S) WILL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, MULTIPLE, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING FROM THIS DOCUMENT, INCLUDING YOUR USE OF IT.

Important Licensing Information: These products may be covered by one or more Limited Use Label Licenses. By use of this product, you accept the terms and conditions of all applicable Limited Use Label Licenses.

©2025 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified. GelRed is a registered trademark of Biotium Inc.

thermofisher.com/support | thermofisher.com/askaquestion

thermofisher.com

08 April 2025

ThermoFisher
SCIENTIFIC