

# GeneRuler 1 kb DNA Ladder

Catalog Number SM0311, SM0312

Pub. No. MAN0013004 Rev. D.00



**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](http://thermofisher.com/support).

## Contents and storage

Cat. No.	Contents	Amount	Storage
SM0311	GeneRuler 1 kb DNA Ladder	250 (5 x 50) µg (for 500 applications), 0.5 µg/µL	-25 °C to -15 °C
	6X TriTrack DNA Loading Dye	2 x 1 mL	
SM0312	GeneRuler 1 kb DNA Ladder	1250 (25 x 50) µg (for 2500 applications), 0.5 µg/µL	-25 °C to -15 °C
	6X TriTrack DNA Loading Dye	10 x 1 mL	

## Description

Thermo Scientific™ GeneRuler™ 1 kb DNA Ladder is designed for sizing and approximate quantification of wide range double-stranded DNA on agarose gel. The ladder is composed of fourteen chromatography-purified individual DNA fragments (in base pairs): 10000, 8000, **6000**, 5000, 4000, 3500, **3000**, 2500, 2000, 1500, **1000**, 750, 500, 250. It contains three reference bands (6000, 3000 and 1000 bp) for easy orientation.

The ladder is dissolved in TE buffer.

## Storage Buffer

10 mM Tris-HCl (pH 7.6), 1 mM EDTA.

## 6X TriTrack DNA Loading Dye

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

## Protocol for Loading

Loading mixture for the 5 mm agarose gel lane\*:

DNA ladder	1 µL
6X TriTrack DNA Loading Dye	1 µL
Deionized water	4 µL
	6 µL

**Step 1:** Mix gently

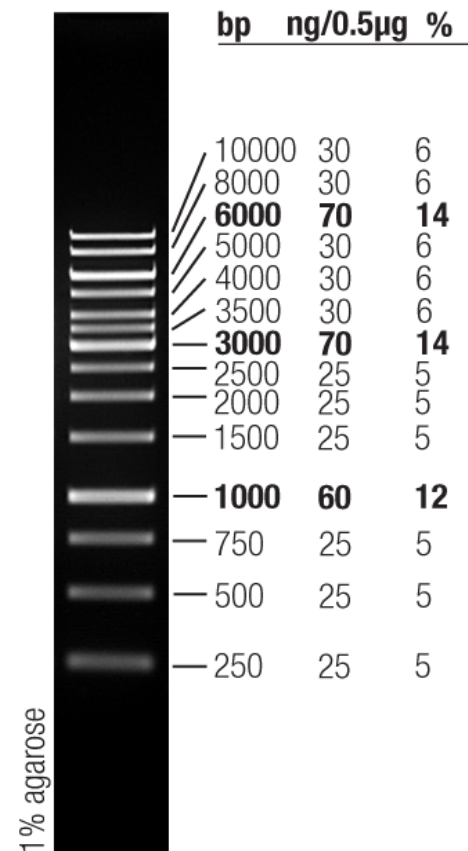
**Step 2:** Load on the gel

\*For gels with other lane widths, the components of the mixture should be scaled either up or down. Use 0.2 µL (0.1 µg) of ladder per 1 mm of lane.

## Recommendations

- Do not heat before loading.
- Dilute your DNA sample with the 6X TriTrack DNA Loading Dye (#R1161, supplied with the ladder): mix 1 volume of the dye solution with 5 volumes of the DNA sample;
- Load the same volumes of the DNA sample and the DNA ladder;
- For quantification, adjust the concentration of the sample to equalize it approximately with the amount of DNA in the nearest band of the ladder.
- 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.

## GeneRuler 1 kb DNA Ladder



0.5 µg/lane, 8 cm length gel,  
1X TAE, 7 V/cm, 45 min

## Limited product warranty

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For descriptions of symbols on product labels or product documents, go to [thermofisher.com/symbols-definition](http://thermofisher.com/symbols-definition).

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