GeneRuler Low Range DNA Ladder

Catalog Number SM1191, SM1192

Pub. No. MAN0013035 **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.**

Contents and storage

Cat. No.	Contents	Amount	Storage
SM1191	GeneRuler Low Range DNA Ladder	50 µg (for 50-100 applications), 0.5 µg/µL	-25 °C to -15 °C
	6X TriTrack DNA Loading Dye	1 mL	
SM1192	GeneRuler Low Range DNA Ladder	250 (5 x 50) µg (for 250-500 applications), 0.5 µg/µL	
	6X TriTrack DNA Loading Dye	2 x 1 mL	

Description

Thermo Scientific™ GeneRuler™ Low Range DNA Ladder contains a mix of 10 chromatography-purified individual DNA fragments (in base pairs): 700, 500, 400, **300**, 200, 150, **100**, 75, 50, 25. It contains two reference bands (100 and 300 bp) for easy orientation.
The ladder is supplied in the storage buffer.
It is specially designed for electrophoretic analysis of small DNA fragments on high percentage agarose (2.5-3 %) and polyacrylamide (5-10 %) gels.

Storage Buffer

10 mM Tris-HCl (pH7.6), 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 gel lane*:

Components	Gels	
	Agarose	**Polyacrylamide**
DNA ladder (0.5-1 µg)	1-2 µL	1-2 µL
6X TriTrack DNA Loading Dye	1 µL	0.5 µL
Deionized water	4-3 µL	1.5-0.5 µL
	6 µL	3 µL

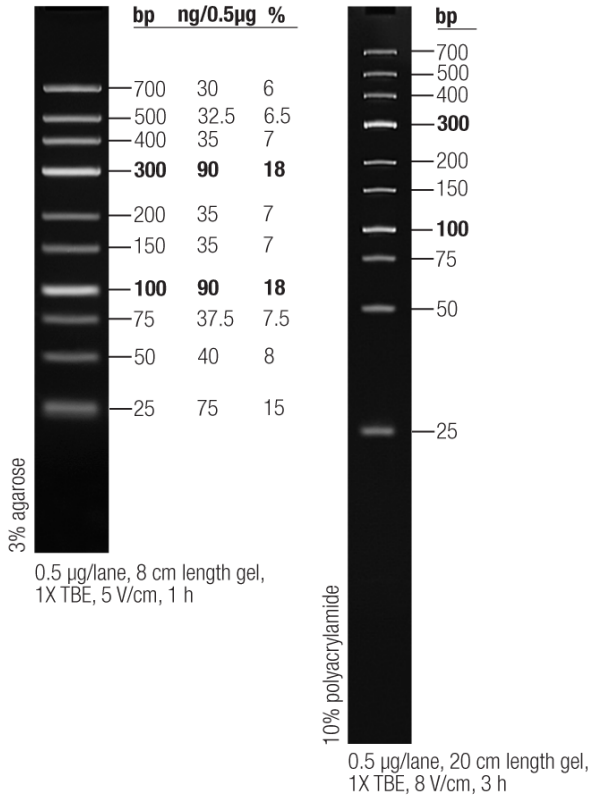
Step 1: Mix gently
Step 2: Load on the gel

* For gels with other lane widths, the components of the mixture should be scaled either up or down. Use 0.2-0.4 µL (0.1-0.2 µg) of DNA 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 band visualization with GelRed™ use gel staining after electrophoresis to avoid aberrant DNA migration.

GeneRuler Low Range DNA Ladder



References

1. Stellwagen, N.C., Anomalous electrophoresis of deoxyribonucleic acid restriction fragments on polyacrylamide gels, Biochemistry, 22, 6186-6193, 1983.
2. Lane, D., et al., Use of gel ratardation to analyze protein – nucleic acid interactions, Microbiological Reviews, 56, 509-528, 1992.
3. Stellwagen, N.C., Conformational isomers of curved DNA molecules can be observed by polyacrylamide gel electrophoresis, Electrophoresis, 21, 2327-2334, 2000.

Limited product warranty

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Thermo Fisher Scientific Baltics UAB | V.A. Graiciuno 8, LT-02241 Vilnius, Lithuania
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