

CERTIFICATE OF ANALYSIS

**MassRuler™ Express DNA
Ladder, LR Forward,
ready-to-use**

#SM1263 2x500µl (for 50-200 applications)

Lot:

Concentration: 28ng/µl

Supplied with: 1 ml MassRuler™ Loading Dye
Solution

**Store: at room temperature or at +4°C for periods
up to 6 months.**

For longer periods store at -20°C.

In total 3 vials.

Description

MassRuler™ Express DNA Ladder, LR Forward, ready-to-use, is designed for the fast and accurate quantification and sizing of DNA fragments in agarose gels. The band pattern is not affected by the composition of electrophoresis buffer, voltage and gel percentage (*see* Table).

The Ladder is composed of six chromatography-purified individual DNA fragments (in base pairs): 1000, 700, 500, 300, 200, 100. The mass of each band is directly proportional to its size, e.g., 10µl of the Ladder contain respectively 100, 70, 50, 30, 20, 10ng of DNA.

The Ladder is ready-to-use – it is premixed with the 6X MassRuler™ Loading Dye Solution for direct loading on gels.

Storage and Loading Buffer

10mM Tris-HCl (pH 7.6), 10mM EDTA,
0.005% bromophenol blue and 10% glycerol.

6X MassRuler™ Loading Dye Solution

10mM Tris-HCl (pH 7.6), 0.03% bromophenol blue,
60% glycerol and 60mM EDTA.

QUALITY CONTROL ASSAY DATA

Well-defined bands are formed during agarose gel electrophoresis. The DNA concentration is determined spectrophotometrically.

The absence of nucleases is confirmed by a direct nuclease activity assay.

Quality authorized by:



Jurgita Zilinskiene

Protocol For Loading

Step 1: Mix gently

Step 2: Load 5-20µl per 1 mm gel lane.

Recommendations

- Do not heat before loading.
- For accurate DNA quantification:
 - load the same volumes of the DNA sample and the DNA Ladder;
 - adjust the concentration of the sample such that the expected amount of DNA loaded is approximately equal to that of Ladder's band of a nearest size.
- Visualize DNA by staining with ethidium bromide or with SYBR® Green I.

Separation Guide of MassRuler™ Express DNA Ladder, LR Forward, under various electrophoresis conditions

Duration of electrophoresis at 7V/cm	Concentration of agarose gel									
	0.7%		1%		1.3%		1.5%		2%	
	Electrophoresis buffer									
	TAE	TBE	TAE	TBE	TAE	TBE	TAE	TBE	TAE	TBE
10min										
20min										
30min										
40min										
50min										

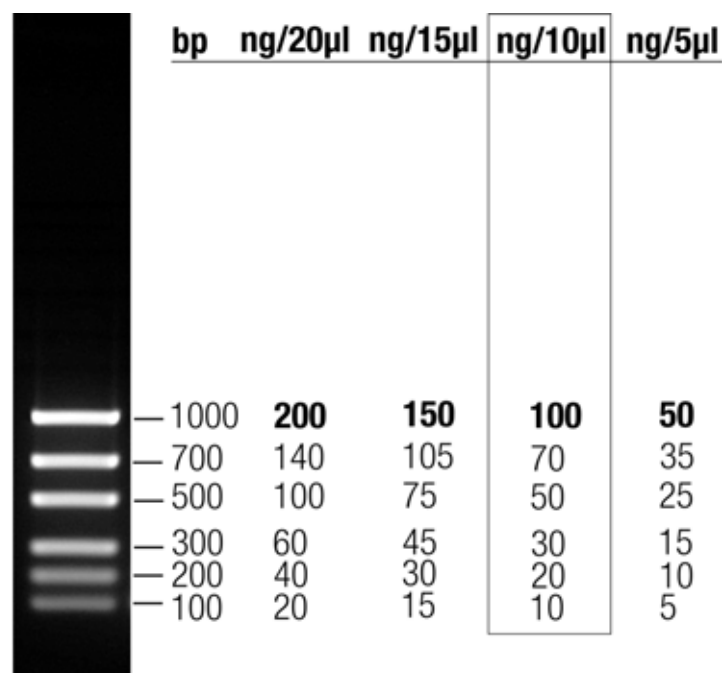
Excellent separation

Incomplete separation

No separation

MassRuler™ Express DNA Ladder, LR Forward, ready-to-use

DNA amount (ng) in each band



1% TopVision™ LE GQ Agarose (#R0491),
10µl/lane, 8cm length gel, 1X TAE, 7V/cm, 30min

Note. Formation of diffused bands of small DNA fragments is a feature of agarose gel electrophoresis.

PRODUCT USE LIMITATION.

This product is developed, designed and sold exclusively *for research purposes and in vitro use only*. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals. Please refer to www.fermentas.com for Material Safety Data Sheet of the product.