

CERTIFICATE OF ANALYSIS

MassRuler[™]
Express LR Reverse DNA
Ladder, ready-to-use

#_ 2 x 500 µl (for 50-200 applications)

Lot: —

Concentration: 28 ng/µl

Supplied with: 1 ml 6X MassRuler[™] DNA Loading Dye

Store: at room temperature or at 4°C for up to 6 months.
For longer periods store at -20°C.

In total 3 vials.

Description

MassRuler[™] Express LR Reverse DNA Ladder, ready-to-use, is designed for 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 inversely proportional to its size, e.g., 10 µl of the ladder contain respectively 10, 20, 30, 50, 70, 100 ng of DNA.

The ladder is ready to use – it is premixed with 6X MassRuler[™] DNA Loading Dye for direct loading on gels.

Storage and Loading Buffer

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

6X MassRuler[™] DNA Loading Dye

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

Quality Control Assay Data

Well-defined bands are formed during agarose gel electrophoresis.

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 5-20 μ l per 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 LR Reverse DNA Ladder, under various electrophoresis conditions

Duration of electrophoresis at 7 V/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
10 min										
20 min										
30 min										
40 min										
50 min										

Excellent separation

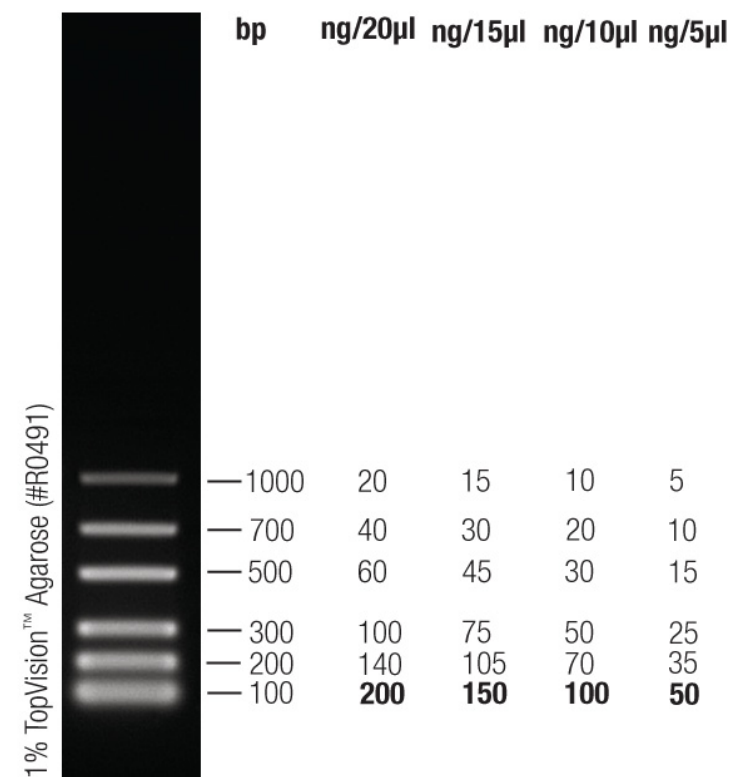
Incomplete separation

No separation

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.

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



10 μ l/lane, 8 cm length gel,
1X TAE, 7 V/cm, 30 min

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

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