



## CERTIFICATE OF ANALYSIS

# GeneRuler<sup>TM</sup> 1kb DNA Ladder

**#SM0311**      250 (5x50) $\mu$ g  
(for 500 applications)

### Lot:

Concentration:      0.5 $\mu$ g/ $\mu$ l  
Supplied with:      2x1ml 6X Loading Dye Solution

**Store at -20°C.**

In total 7 vials.

### Description

The GeneRuler<sup>TM</sup> 1kb DNA Ladder is designed for sizing and approximate quantification of wide range double-stranded DNA fragments 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 (TE buffer)

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

### 6X Loading Dye Solution

10mM Tris-HCl (pH 7.6), 0.03% bromophenol blue, 0.03% xylene cyanol FF, 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

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

DNA Ladder	1µl
6X Loading Dye Solution	1µl
Deionized water	4µl
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	6µl

**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 0.2µl (0.1µg) of DNA Ladder per 1mm of lane.

## Recommendations

- Do not heat before loading.
- Dilute your DNA sample with the 6X Loading Dye Solution (#R0611, 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.
- Visualize DNA by staining with ethidium bromide or with SYBR® Green I.

### 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](http://www.fermentas.com) for Material Safety Data Sheet of the product.

## GeneRuler™ 1kb DNA Ladder

### IMPROVEMENTS

1. Three reference bands: 6000, 3000 and 1000 bp.
2. Amounts of DNA per band equalized for easier quantification.

