

**CERTIFICATE OF ANALYSIS**

**GeneRuler™**  
**50bp DNA Ladder**

**#SM0371** 50µg (for 100 applications)

**Lot:**

Concentration: 0.5µg/µl

Supplied with: 1ml 6X Loading Dye Solution

**Store at -20°C.**

In total 2 vials.

**Description**

The GeneRuler™ 50bp DNA Ladder is designed for sizing and approximate quantification of wide range double-stranded DNA fragments on agarose and polyacrylamide gels. The ladder is composed of thirteen chromatography-purified individual DNA fragments (in base pairs): 1000, 900, 800, 700, 600, 500, 400, 300, 250, 200, 150, 100, 50. It contains two reference bands (500 and 250bp) 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 gel lane\*:

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

**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 0.2-0.4µl (0.1-0.2µg) 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™ 50bp DNA Ladder

### IMPROVEMENTS

1. Two reference bands: 500 bp and 250 bp.
2. Amounts of DNA per band equalized for easier quantification.
3. 1031 bp fragment replaced by 1000 bp.

