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低范围 RNA Ladder

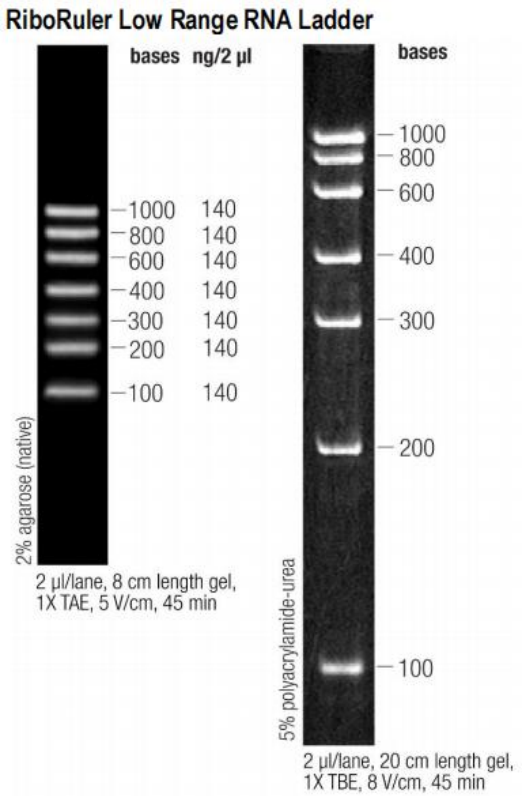
货号：S12045

规格：20 ul，20ul*5

保存温度：-20℃保存。

Description：

Thermo Scientific RiboRuler Low Range RNA Ladder is a mixture of seven chromatography-purified single-stranded RNA transcripts (in bases): 1000, 800, 600, 400, 300, 200 and 100. The ladder is designed for qualitative and quantitative analysis of RNA on agarose gels stained with ethidium bromide or SYBR Green II.



The ladder is free of degraded RNA and NTP's. Therefore, spectrophotometric measurements provide accurate values of RNA concentration in each ladder band. Due to this feature, the RiboRuler RNA ladder could be used for approximate RNA quantification on gels.

The RiboRuler Low Range RNA Ladder is recommended for electrophoresis in the following: native 2 % agarose with TAE buffer, denaturing formaldehyde agarose with MOPS buffer, denaturing glyoxal/DMSO agarose with sodium phosphate buffer and denaturing polyacrylamide gel electrophoresis in TBE buffer .

The ladder can be labeled radioactively with T4 Polynucleotide Kinase for use in Northern blots.

Contents and storage：

Cat. No.	Contents	Amount	Storage
S12045	RiboRuler Low Range RNA Ladder	100 (5×20) µL (for 50 applications)	70°C or -20°C (up to 6 months)
	2X RNA Loading Dye	1 mL	

Storage Buffer：

1 mM EDTA (pH 6.0).

2X RNA Loading Dye：

95 % formamide, 0.025 % SDS, 0.025 % bromophenol blue, 0.025 % xylene cyanol FF, 0.025 % ethidium bromide, 0.5 mM EDTA.

RECOMMENDATIONS FOR USE：

Note：

RNA ladders, as any RNA, are extremely sensitive to degradation by ribonucleases. To avoid RNA degradation, use protective gloves and prepare fresh gels and electrophoresis buffers just before use. Plastic ware, tips and solutions should be treated with diethyl pyrocarbonate.

Use the supplied 2X RNA Loading Dye both for sample RNA and RNA ladder. The dye is also available separately.

Mix equal volumes of the 2X RNA Loading Dye and RNA sample, heat at 70 ºC for 10 min, chill on ice and load.

Loading of equal volumes of the sample and the ladder is recommended. The required volumes can be obtained by diluting samples with the 2X RNA Loading Dye and Water, nuclease-free .

The 2X RNA Loading Dye contains a denaturing agent formamide. When samples are treated with this agent, RNA molecules separate according to their size both on native and denaturing agarose gels.

For more precise RNA analysis and for Nothern blots, denaturing electrophoresis is recommended.

I. Ladder preparation for loading

① Thaw the ladder on ice.

② Mix the contents well by pipetting or by gentle vortexing, as concentration gradients may form in frozen products over time.

③ Use a 0.25 µL aliquot of the ladder per 1 mm of the gel lane width.

④ Prepare the following for 8 mm width of gel lane :

– 2 µL of 2X RNA Loading Dye,

– 2 µL of RiboRuler Low Range RNA Ladder.

⑤ Vortex briefly and spin down.

⑥ Heat at 70 ºC for 10 min. Chill quickly on ice and load on gel.

*The prepared probe is suitable for electrophoresis both in native agarose with TAE buffer, and in denaturing formaldehyde agarose with MOPS buffer and in denaturing polyacrylamide gel electrophoresis in TBE buffer. To prepare probes for electrophoresis in glyoxal/DMSO agarose with sodium phosphate buffer.

II. RNA visualization

The 2X RNA Loading Dye allows for RNA visualization without additional staining of denaturing agarose gels. If RNA fragments are separated on native agarose gels, additional staining with ethidium bromide is recommended.

When visualizing a gel under UV light, an additional dark zone of ethidium bromide can sometimes be observed. However, this has no influence on the quality of RNA separation.

Avoid long exposure to the UV light, as this may cause RNA degradation.

For Northern blots, perform electrophoresis in denaturing formaldehyde agarose with MOPS buffer. A 2 µL aliquot of the RiboRuler RNA Ladder is well visible after being transferred on Hybond-N+ membrane from 2 % formaldehyde gel, whereas the same amount of RNA ladder is less visible when transferred from 2 % native agarose.

The ethidium bromide present in the sample and/or in the gel does not interfere neither with the RNA transfer onto the membrane, nor with RNA hybridization with the probe.