ssRNA Marker 1000

REF: EG26901S

Storage Condition

Store at -80℃ for 2 years, and at -20℃ for 6 months.

Components

Component	Amount
ssRNA Marker 1000	2×25 μl
2× RNA Loading Buffer	1 ml

Note: Components of 2× RNA Loading Buffer: 95% Formamide, 0.02% SDS, 0.02% bromophenol blue, 0.02% Xylene Cyanol, 1 mM EDTA。

Description

The product is a set of 6 RNA molecules produced by in vitro transcription of a mixture of 6 linear DNA templates. The ladder sizes are: 100, 200, 300, 400, 600 and 1000 nt.

Quality Control Assays

Concentration

The RNA concentration of this product is determined to be 500 ng/μl±4% by NanoDrop.

Gel Electrophoresis

Detected by 2% TBE gel electrophoresis, the six RNA bands of this product show clear patterns with no degradation or smearing.

Protocol

1. Agarose Gel Electrophoresis

1.1 Take 1~2 μl of ssRNA Marker 1000, add an equal volume of 2× RNA Loading Buffer and mix thoroughly. Incubate the mixture at 65 ℃ for 10 min, then transfer it rapidly onto ice and cool for 3 min. Treat the samples in the same manner as the ssRNA Marker; the samples can be diluted with nuclease-free water, and 2× RNA Loading Buffer can be supplemented to adjust the final volume.

1.2 Prepare a TBE agarose gel with a concentration of 2% or higher and perform electrophoresis.

3. Stain the gel after electrophoresis and capture images of it.

2. Formaldehyde-Denaturing Agarose Gel Electrophoresis

1.1 Prepare 3% formaldehyde-denaturing agarose gel: Weigh 1.5 g of agarose and add it to 36 ml of DEPC-treated water, heat to dissolve the agarose completely. Add 5 ml of 10× MOPS Buffer, and when the solution cools to a non-scalding temperature, add 9 ml of 37% formaldehyde solution (operate in a fume hood). Mix the solution gently (ensure no oily substances are observed under transmitted light), pour the gel, and allow it to solidify at room temperature for 30~60 min.

1.2 Treat ssRNA Marker 1000 and samples with the same protocol as used for conventional agarose gel electrophoresis.

1.3 Place the agarose gel into the electrophoresis tank, add 1× MOPS Buffer to fully submerge the gel, and perform pre-electrophoresis at 10 V/cm for 10 min.

1.4 Load the samples and conduct electrophoresis at 5~10 V/cm until bromophenol blue migrates to approximately two-thirds of the gel. Gently mix the electrophoresis buffer in the tank every 10~20 min during the electrophoresis process.

1.5 After electrophoresis, immerse the gel in DEPC-treated water for 15 min to remove formaldehyde from the gel.

1.6 Stain the gel for 20~30 min (avoid prolonged staining as it may induce RNA degradation), then capture images of the gel.

Notice

1. 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.

2. To achieve higher-quality electrophoresis results, the gel thickness may be appropriately reduced, provided that the sample loading volume requirement is satisfied.

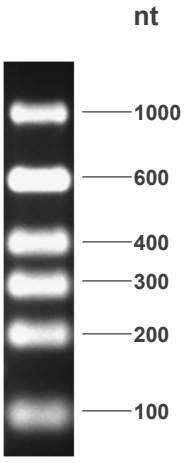
3. The bands of ssRNA Marker consist of single-stranded linear RNA, which is suitable as a molecular weight reference for single-stranded linear RNA samples. For Total RNA, this product can only serve as a qualitative reference.

4. The RNA in this product lacks a Poly(A) tail and is therefore not applicable for reverse transcription experiments.

5. The 2× RNA Loading Buffer contains toxic formamide and formaldehyde. Wear a mask, protective gloves, and laboratory clothing during use. In case of accidental skin contact, rinse thoroughly with plenty of water and seek medical attention if necessary.

6. This product is for research use only.

Result Display



2 μl/lane，2% TBE agarose gel
1× TBE，6 V/cm，65 min

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