

RNA Millennium™ Markers-Formamide

Store below -70°C.

Catalog # (P/N):	AM7151
Concentration:	1.0 µg/µL (50 µL)
Product Description:	RNA Millennium™ Markers-Formamide are a set of 10 transcripts with lengths of 0.5, 1, 1.5, 2, 2.5, 3, 4, 5, 6 and 9 kb. Each transcript contains a 20-base poly(A) tail. They are designed for use as RNA size standards in Northern blots and can be visualized by ethidium bromide staining and UV fluorescence or by autoradiography using Ambion® Millennium™ Marker Probe (P/N AM7785; see Figure 1).
Storage Conditions:	Store below -70°C. Avoid multiple freeze-thaw cycles. The product may be stored short-term at -20°C.
Storage Buffer:	Deionized formamide.

USER INFORMATION

General Information:	These RNA Millennium Markers are suspended in deionized formamide, which offers greater resistance to degradation by a variety of common RNases including RNase A, RNase T1, and RNase I, compared to aqueous RNA Millennium Markers (P/N AM7150).
Handling Instructions:	This product is sensitive to degradation by nucleases. The use of gloves and diethyl pyrocarbonate-treated solutions is recommended. Clean gel apparatus by rinsing with Ambion RNaseZap® (P/N AM9780) or 0.1% SDS followed by two rinses with nuclease-free water.
Applications:	<p>RNA Millennium Markers are commonly used on denaturing agarose gels for Northern analysis. Before using, the markers should be thawed and vortexed for approximately 15 seconds to ensure homogeneity and consistent staining.</p> <p>Formaldehyde Gels Use 2 µg (2 µL) aliquots directly by mixing them with 1X volume of NorthernMax® Formaldehyde Load Dye (P/N AM8552) and 50 µg/mL ethidium bromide (final concentration in the sample).</p> <p>Alternatively, dilute 2 µL aliquots of the markers with 3 µL of Nuclease-free water and mix with 5 µL of NorthernMax Formaldehyde Load Dye.</p> <p>Vortex samples briefly in NorthernMax Formaldehyde Load Dye, centrifuge briefly, heat to 80°C for 10 minutes, and place on ice. A 1 % denaturing agarose gel is suitable for separation of these markers (Figure 1).</p> <p>Protocol Note: Staining of the markers decreases as the ratio of loading buffer to sample increases. Therefore, we recommend using no more than a 1:1 ratio (volume:volume) of loading buffer to markers.</p> <p>Glyoxal Gels Treat ~2 µg of RNA Millennium Markers-Formamide in Glyoxal Sample Loading Dye (P/N AM8551) prior to loading on the gel. Follow the instructions provided with the loading dye.</p> <p>Note: Gel parameters can greatly affect the appearance of RNA Millennium Markers. Using less than optimal conditions, total RNA may look intact while the RNA Millennium Markers may appear somewhat smeared. Optimal gel conditions include a freshly prepared denaturing gel, utilizing high quality reagents such as those found in the Ambion NorthernMax Kit (P/N AM1940). The gel should not become hot during electrophoresis. We recommend 4 volts/cm, measured between the electrodes, and running the bromophenol blue to within 3 cm of the bottom of the gel. Overloading the markers will also decrease the resolution.</p>

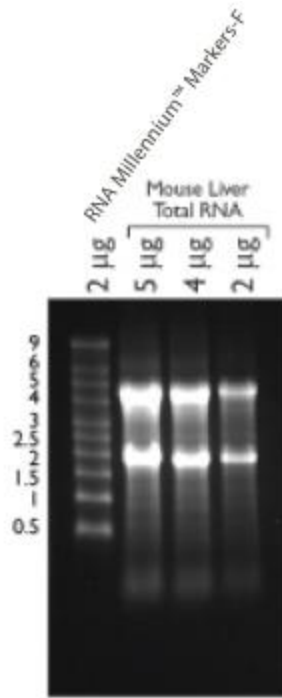


Figure 1: RNA Millennium™ Markers (2 μg) along with total RNA were electrophoresed on a 1% denaturing agarose gel and stained with ethidium bromide.

QUALITY CONTROL

Functional Testing:

2 μg (2 μL) of RNA Millennium Markers-Formamide generates 10 distinct bands on a 1% denaturing agarose gel with ethidium bromide staining.

The markers remain intact when incubated overnight at 37°C.

OTHER INFORMATION

Material Safety Data Sheets:

Material Safety Data Sheets (MSDSs) can be printed or downloaded from product-specific links on our website at the following address: www.ambion.com/techlib/msds. Alternatively, e-mail your request to MSDS_Inquiry_CCRM@appliedbiosystems.com. Specify the catalog or part number(s) of the product(s), and we will e-mail the associated MSDSs unless you specify a preference for fax delivery. For customers without access to the internet or fax, our technical service department can fulfill MSDS requests placed by telephone or postal mail. (Requests for postal delivery require 1–2 weeks for processing.)

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