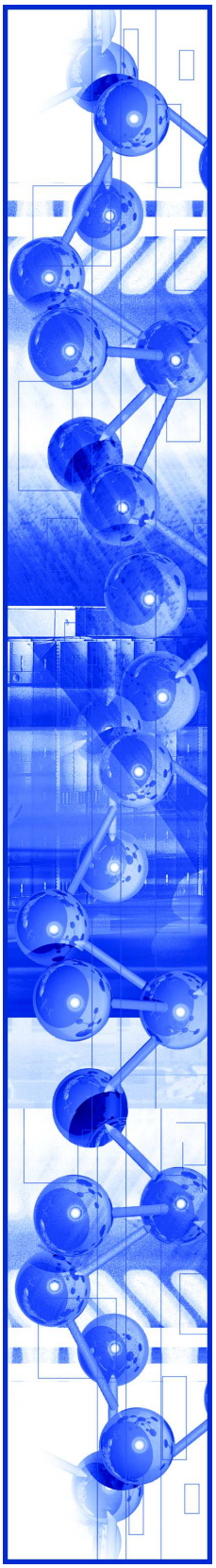

# Formaldehyde-Free RNA Gel Kit & Rapid Formaldehyde-Free RNA Gel Kit

| Code | Description | Size |
|---|---|---|
| N726-KIT | Formaldehyde-Free RNA Gel Kit<br>*Includes:*<br>*Formaldehyde-Free RNA Gel Running Buffer, 10X, 2 x 500 ml*<br>*Formaldehyde-Free RNA Gel Solution, 10X, 150 ml*<br>*Formaldehyde-Free RNA Gel Loading Buffer, 2X, 3 x 2 ml* | Kit |
| 1B1384-KIT | Rapid Formaldehyde-Free RNA Gel Kit<br>*Includes:*<br>*Rapid RNA Gel Running Buffer, 10X, 2 x 500 ml*<br>*Rapid Formaldehyde-Free RNA Gel Solution, 10X, 150 ml*<br>*Formaldehyde-Free RNA Gel Loading Buffer, 2X, 3 x 2 ml* | Kit |

## General Information:

The Formaldehyde-Free RNA Gel Kit and Rapid Formaldehyde-Free RNA Gel Kit are safer alternatives to formaldehyde containing agarose gels for denaturing electrophoresis of RNA. The kits provide a non-volatile substitute for formaldehyde as well as a non-mutagenic RNA stain, which eliminates the need for ethidium bromide staining.

The non-volative denaturing agent included in the gel solution and loading buffer of both kits effectively eliminates RNA secondary structure to ensure optimal resolution during electrophoresis. Gel casting and electrophoresis can be safely performed on the bench top without a fume hood. In contrast to formaldehyde-free gel kits containing glyoxal, AMRESCO's kits do not require extended incubations steps or buffer recirculation during electrophoresis.

The Formaldehyde-Free RNA Gel Loading Buffers conveniently reduce the number of steps required for sample preparation and post-electrophoresis RNA visualization. The non-mutagenic, fluorescent dye included in the loading buffers stains RNA during the denaturation step and visualizes RNA immediately post-electrophoresis, without the need for further processing. Bright green bands are detected by standard UV transillumination and a green filter, such as SYBR® Green.

Although both kits feature the same safe RNA denaturant and RNA visualization dye, they are distinguished from one another by differences in buffer formulations. The Formaldehyde-Free RNA Gel Kit directly replaces hazardous formaldehyde RNA gels, requiring an equivalent amount of time to resolve RNA. The Rapid Formaldehyde-Free RNA Gel Kit contains specially formulated buffer to enable electrophoresis at higher voltages, thereby reducing electrophoresis time by half. RNA can be resolved effectively in as little as 15 minutes on a 1% agarose mini-gel.

**Storage/Stability:**

Store at 18 - 26℃.

## Application Disclaimer

*For research use only.*
*Not for therapeutic or diagnostic use.*

## Procedure

Wear appropriate PPE, including gloves while working with this kit. Use standard practices for working with RNA to preserve RNA integrity.

**Preparation of 1X Formaldehyde-Free RNA Running Buffer and 1X Rapid RNA Gel Running Buffer**:
Dilute Formaldehyde-Free RNA Gel Running Buffer, 10X or Rapid RNA Gel Running Buffer, 10X 1:10 with deionized water.
*Example: Mix 100 ml Formaldehyde-Free RNA Gel Running Buffer, 10X with 900 ml deionized water.*

**Preparation of Formaldehyde-Free RNA Gel or Rapid Formaldehyde-Free RNA Gel (100 ml):**

1. Suspend agarose (1-2%) in 90 ml deionized water in a 250 ml conical flask.
2. In a microwave oven, heat the above mixture to a boil until the agarose has dissolved completely.

**Note:** USE CAUTION – MIXTURE IS EXTREMELY HOT

3. Let solution cool to 60-70℃ and then add 10 ml Formaldehyde-Free RNA Gel Solution, 10X or 10 ml Rapid Formaldehyde-Free RNA Gel Solution, 10X and mix thoroughly.
4. Pour the melted agarose into a horizontal agarose gel-casting unit and insert well comb.
5. After the gel has completely solidified, remove the comb and completely submerge the gel in 1X Formaldehyde-Free RNA Gel Running Buffer of 1X Rapid RNA Gel Running Buffer.
6. Add an equal volume of Formaldehyde-Free RNA Gel Loading Buffer, 2X (same for both kits) to each RNA sample and mix thoroughly.
7. Heat denatured samples for 10 minutes at 65℃.
8. Load samples into wells and run gel in 1X Formaldehyde-Free RNA Gel Running Buffer at 5-8 V/cm or in 1X Rapid RNA Gel Running Buffer at 15-18 V/cm until sufficient separation has been achieved.

**Note:** Calculate voltage based on the measurement of the distance between electrodes in centimeters.

9. The gel may be visualized immediately on a U.V. transilluminator. For optimal results, use a SYBR® Green (green emission) filter for image capture.

## Frequently Asked Questions

| Questions | Answers |
|---|---|
| Why do I see smears of RNA or no RNA on my gel? | 1. Smears/No RNA-RNase contamination in samples. Prepare fresh RNA samples.<br>2. Smears may result from overloading. Load <30µg RNA.<br>3. No RNA-Not enough RNA loaded. Impure RNA not quantitated accurately.<br>4. No RNA-RNA diffusion. Image gel immediately after electrophoresis.<br>5. RNA ran off gel. Use shorter gel run time.<br>6. Insufficient staining. Electrophorese RNA shorter time because dye migrates toward negative electrode. |
| Is a Formaldehyde-Free or Rapid Formaldehyde-Free RNA Gel compatible with Northern blotting? | Yes. Both kits are compatible with Northern blotting. |
| Why didn't my RNA leave the loading well? | 1. Improper well formation. Pour a new gel and repeat.<br>2. Overloaded RNA. Load <30µg RNA. |

## Related Products

| Code | Product |
|---|---|
| 0710-25G<br>0710-100G<br>0710-500G | Agarose I™ |
| N580-30ML<br>N580-100ML<br>N580-200ML | RiboZol™ RNA Extraction Reagent |
| N643-KIT | RiobZol™ Plus RNA Purification Kit |
| N788-KIT | Phenol-Free Total RNA Purification Kit |
| N931-150UL | EZ-Vision™ RNA Ladder |
| E891-100ML<br>E891-500ML | NucleasEliminator™ |
| E891-50ML-PUMP<br>E891-100ML-PUMP | NucleasEliminator™ Spray |
| E891-25PK | NucleasEliminator™ Wipes |
| N633 | RiboReserve™ RNA Storage Solution |



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