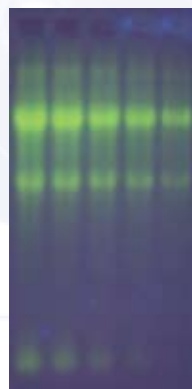


## RNA Electrophoresis

**NEW**

### Formaldehyde-Free RNA Gel Kit

- ▶ *Formaldehyde-Free denaturing gel kit for RNA*
- ▶ *Pour and run right on your bench top*
  - ▶ Easy to Pour - Add Formaldehyde-Free RNA Gel Solution to your melted agarose and cast your gel
  - ▶ Easy to Run - Dilute Formaldehyde-Free RNA Running Buffer and use
  - ▶ Easy to Visualize - No staining or destaining needed! Bands are instantly visible on a UV transilluminator



**I think it's a great product.**

Girish Shukla  
Cleveland State University  
Cleveland, OH

Total RNA was extracted from K562 cells with RiboZol™ RNA Extraction Reagent (N550). Samples were resolved on a Formaldehyde-Free RNA Gel for 1.4 hours at 5.1v/cm.

See Pages 2 & 3

### Additional Products

**NEW**

IPTG/X-Gal Ready Solution  
*Now available in a convenient dropper bottle*  
*Simply apply drops and spread on plates*

Non-animal origin IPTG

See Page 6

RiboZol™ RNA Extraction Reagent

*Ready-to-use, single-phase RNA extraction reagent*

RiboZol™ Plus Total RNA Purification Kit

*RiboZol™ Extraction Reagent + Spin Column Purification*

See Page 5

**NEW**

New Biochemicals & Reagents

*A variety of new biochemicals are now available in convenient sizes for laboratory applications*

- ▶ Detergents
- ▶ Chelating Agents
- ▶ Buffer Salts

Visit our website for complete specifications

[www.amresco-inc.com/new-biochemicals](http://www.amresco-inc.com/new-biochemicals)

See Page 7

**NEW**

**RNA EZ-VISION™**  
RNA DYE AS LOADING BUFFER

### RNA EZ-Vision™

*A non-mutagenic ethidium bromide alternative for RNA electrophoresis*

- ▶ A fluorescent RNA stain in gel loading buffer for denaturing agarose electrophoresis of RNA
- ▶ Brilliant green bands are immediately visible upon UV illumination

See Page 4



## Electrophoresis

# RNA Electrophoresis

## Formaldehyde-Free RNA Gel Kit

### *Formaldehyde-Free denaturing agarose electrophoresis of RNA*

- ▶ Hood-free pouring and running - completely formaldehyde-free
- ▶ Eliminate long incubations and buffer recirculation - glyoxal-free formulation
- ▶ Easy sample preparation - denature and stain samples in a single step
- ▶ Instant band visualization - low background and brilliant green bands without the need for ethidium bromide
- ▶ Compatible with down-stream applications including Northern Blots

Resolution of total RNA on a Formaldehyde-Free RNA Gel

### *Comparison of Formaldehyde-Free RNA dye to ethidium bromide staining*

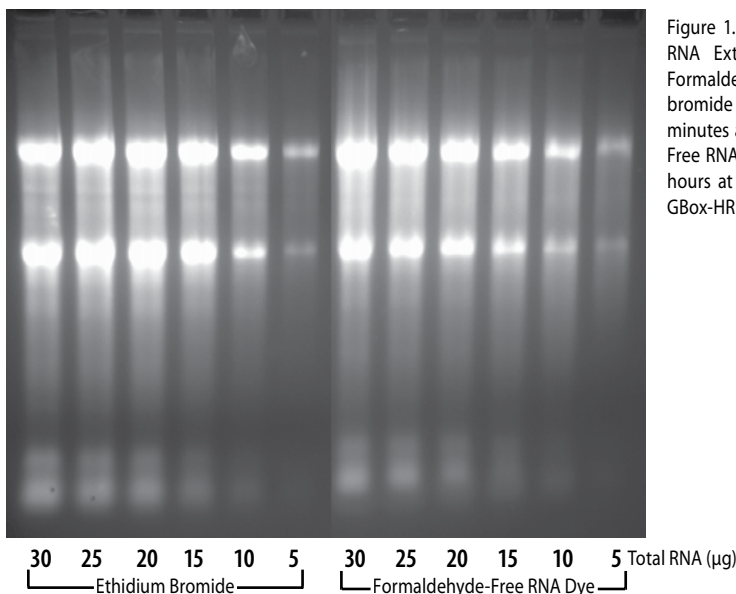


Figure 1. Total RNA was extracted from K562 cells with Ribozol® RNA Extraction Reagent (N580). Samples were denatured in Formaldehyde-Free RNA Loading Buffer containing either ethidium bromide or Formaldehyde-Free RNA dye and incubated for 10 minutes at 65°C. The samples were applied to a 2% Formaldehyde-Free RNA Agarose Gel (Agarose I™, Code:0710) and resolved for 1.5 hours at 5.1 V/cm. Image capture was performed with a Syngene GBox-HR Gel Doc System with a SYBR® Green filter.

### **Kit Includes**

- ▶ Formaldehyde-Free RNA Gel Solution, 10X
- ▶ Formaldehyde-Free RNA Running Buffer, 10X
- ▶ Formaldehyde-Free RNA Loading Buffer, 2X - bromophenol blue and xylene cyanol included as tracking dyes.

PRODUCT DESCRIPTION	CODE	SIZE	PRICE
Formaldehyde-Free RNA Gel Kit <i>Includes:</i> Formaldehyde-Free RNA Gel Solution, 10X, 1 x 150 ml Formaldehyde-Free RNA Gel Running Buffer, 10X, 2 x 500 ml Formaldehyde-Free RNA Gel Loading Buffer, 2X, 3 x 2 ml <i>Sufficient for 15 x 100 ml gels</i>	N726-KIT	1 Kit	\$179.90

Visit [www.amresco-inc.com](http://www.amresco-inc.com) for additional information and related products.

## Compatibility of Formaldehyde-Free Gels with Downstream Applications

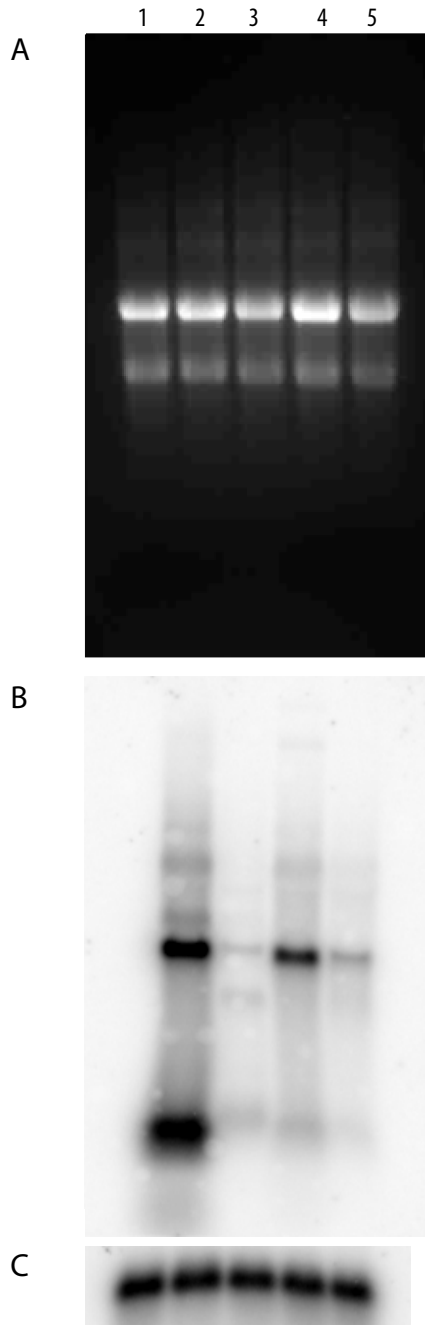
*Northern Blot Analysis of PGK1 mRNA*

Figure 2. Northern blot analysis of PGK1 mRNA resolved on Formaldehyde-Free RNA Gel. Data provided by Jeff Collier, Ph.D., Center for RNA Molecular Biology, Case Western Reserve University, Cleveland, Ohio. **Gel A:** 20  $\mu$ g of total yeast RNA was applied per lane to an agarose Formaldehyde-Free RNA Gel and resolved at 8V/cm. Bands were visualized on a UV transilluminator **Gel B:** Bands were transferred to Hybond N membrane and probed overnight with a radiolabelled oligonucleotide to PGK1 mRNA. **Gel C:** Membranes were stripped and reprobbed over night with an oligonucleotide to SCR1 RNA loading control.

**Lane 1:** Untransformed control  
**Lane 2:** High Copy PGK1 vector  
**Lane 3:** Low Copy PGK1 vector  
**Lane 4:** High Copy PGK1 vector  
**Lane 5:** Low Copy PGK1 vector

### & Related Products

- ▶ Ribozol™ Total RNA Extraction Reagent, Code: N580
- ▶ Ribozol™ Plus Total RNA Purification Kit, Code: N643-KIT
- ▶ Agarose I™, Code: 0710

*...I think the product is very good as RNA seemed to be denatured well without any formaldehyde... [Formaldehyde-Free RNA Gel] has [a] clear advantage over [a] formaldehyde gel regarding safety. And as a result, it is very easy to use. As an end-user, it provides improved safety and simplified work plan.*

Dr. Bernard Lam  
 Norgen Biotek  
 Ontario, Canada

Visit [www.amresco-inc.com](http://www.amresco-inc.com) for additional information and related products.

## Electrophoresis

### RNA Detection

#### RNA EZ-Vision™ Dye as Loading Buffer

*Non-mutagenic alternative to ethidium bromide for RNA staining*



**Loading buffer for RNA denaturation  
and staining in a single step!**

- ▶ Ideal for environments needing to reduce ethidium bromide use
- ▶ Recommended for denaturing agarose gels with formaldehyde
- ▶ Sensitivity to 150 ng
- ▶ Compatible with downstream applications including Northern blotting

EZ-Vision RNA is provided as a 1.5X loading buffer containing formamide, a fluorescent RNA dye and Bromophenol Blue tracking dye.

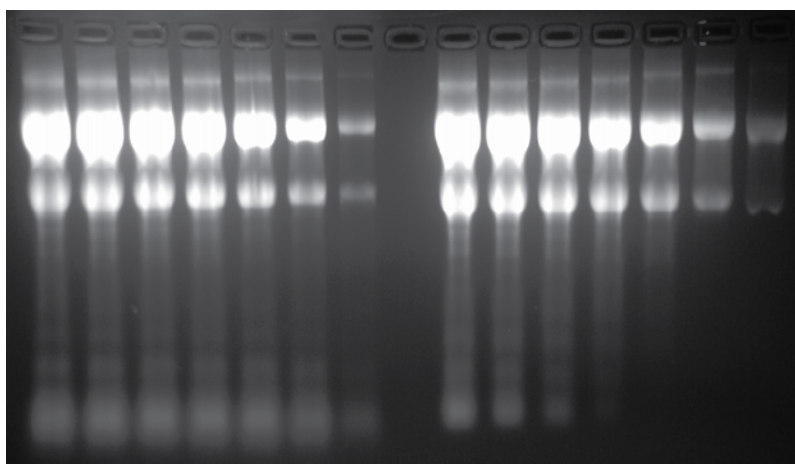


Figure 3. Total RNA was purified from K562 cells with Ribozol™ RNA Extraction Reagent. Samples were denatured at 65°C for 10 minutes in RNA EZ-Vision™ loading buffer containing either 0.003% ethidium bromide or RNA EZ-Vision™ dye. The denatured RNA was loaded onto a 2% formaldehyde denaturing agarose gel (Agarose I™, Code: 0710) and resolved for 1.5 hours at 5.1 V/cm. Bands were visualized by UV illumination and image capture was performed with a Syngene GBox-HR Gel Doc System with a SYBR® Green filter.

30 25 20 15 10 5 1      30 25 20 15 10 5 1      Total RNA (µg)  
Ethidium Bromide      RNA EZ-Vision

PRODUCT DESCRIPTION	CODE	SIZE	PRICE
RNA EZ-Vision™	N717-2x1.5ML	2x1.5 ml	\$89.00
	N717-Q-SAMPLE	0.3 ml	\$24.00

Visit [www.amresco-inc.com](http://www.amresco-inc.com) for additional information and related products.

## RNA Extraction

### RiboZol™ RNA Extraction Reagent

*Ready-to-use, single phase RNA extraction reagent*

- ▶ High yields/high purity total RNA
- ▶ Fast 1 hour procedure
- ▶ Compatible with a variety of downstream applications
- ▶ Excellent results from even the most difficult of cells and tissues

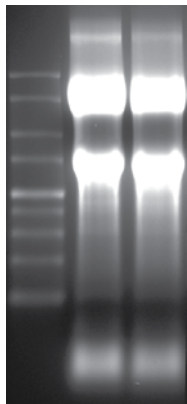


Figure 4: Total RNA purified with RiboZol™ Total RNA Extraction Reagent. Total RNA was extracted from K562 cells ( $1 \times 10^6$  cells) extracted with RiboZol™. RNA pellets were resuspended in RiboReserve™ RNA storage buffer. Samples were electrophoresed on a 1.2% Agarose 1™ (Code: 0710) formaldehyde gel.

**Lane 1:** RiboReady™ 1 KB RNA ladder  
**Lanes 2 & 3:** RiboZol™ extracted RNA samples

PRODUCT DESCRIPTION	CODE	SIZE	PRICE
RiboZol™ RNA Extraction Reagent	N580-100ML	100 ml	\$95.00
	N580-200ML	200 ml	\$175.00
	N580-30ML	30 ml	\$42.00

#### Purity of Total RNA Extracted with RiboZol™

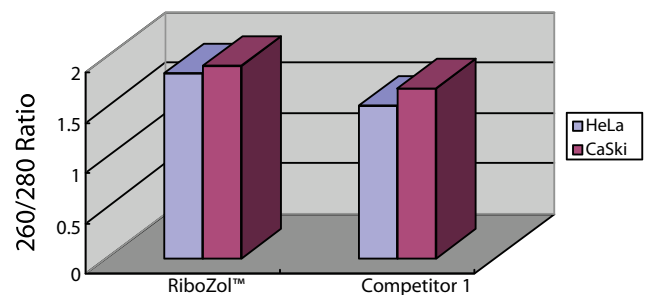


Figure 5: Purity of RiboZol™ extracted RNA from 2 different cell lines. Data provided by Eunmi Ho, Catholic University, Korea. RNA was extracted from HeLa cell cultures (purple bars)  $1 \times 10^6$  cells and from CaSki cultures (magenta bars)  $1 \times 10^6$  cells according to provided procedures. RNA purity was determined by the OD260/280 ratio.

#### Yields of Total RNA Purified with RiboZol™

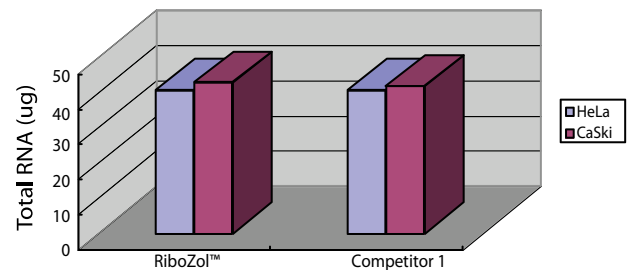


Figure 6: RiboZol™ extracted RNA yields from 2 different cell lines. Data provided by Eunmi Ho, Catholic University, Korea. RNA was extracted from HeLa cell cultures (purple bars)  $1 \times 10^6$  cells and from CaSki cultures (magenta bars)  $1 \times 10^6$  cells according to standard procedures. Total RNA yields were determined by OD260.

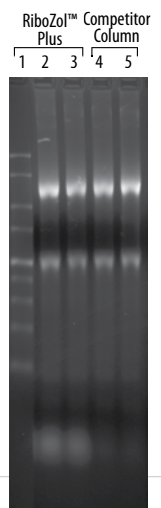
### RiboZol™ Plus Total RNA Purification Kit

*Extract, purify and concentrate total RNA with RiboZol™ RNA Extraction Reagent combined with a proprietary spin column matrix*

- ▶ High quality, intact and non-degraded RNA
- ▶ Superior recovery of small RNAs
- ▶ Compatible with a variety of downstream applications
- ▶ Excellent yields from small sample sizes

PRODUCT DESCRIPTION	CODE	SIZE	PRICE
RiboZol™ Plus RNA Purification Kit Includes: RiboZol™ RNA Extraction Reagent, wash buffer, elution buffer, spin columns and collection tubes. Sufficient for 50 RNA isolation and purification reactions	N643-Kit	1 Kit	\$306.00

Figure 7: RiboZol™ Plus Kit achieves excellent recovery of small RNA species.  $5 \times 10^6$  K562 cells were isolated with RiboZol™ RNA Extraction Reagent, and further purified with RiboZol™ Plus Purification Kit Columns (**lane 2-3**) or Competitor's Purification Kit Columns (**lanes 4-5**). Arrow indicates small RNA species that are recovered in greater abundance with the columns used in the RiboZol™ Plus RNA Purification Kit compared to Competitor's Kit columns.



Visit [www.amresco-inc.com](http://www.amresco-inc.com) for additional information and related products.

## Induction & Selection

# Induction & Selection Agents

## X-gal - IPTG Ready Solution

*Ready-to-use, stable solution in a convenient dropper bottle*

- ▶ Filter sterilized X-gal - IPTG solution, 1000X (40 mg/ml IPTG, 32 mg/ml X-gal) available in 2 convenient packaging options:
  - » 10 ml dropper bottle - simply add 3 drops to standard petri dishes (100 mm) and spread
  - » 1.5 ml tube - ideal for situations where precise concentrations are required
- ▶ Drop & spread on pre-poured plates or add to molten agar prior to pouring
- ▶ Recommended for all standard *lacZ* selection systems
- ▶ Stable at 4°C for 6 months - eliminates freeze-thaw cycles that reduce selection efficiency
- ▶ No hazardous or toxic solvents including DMSO and DMF

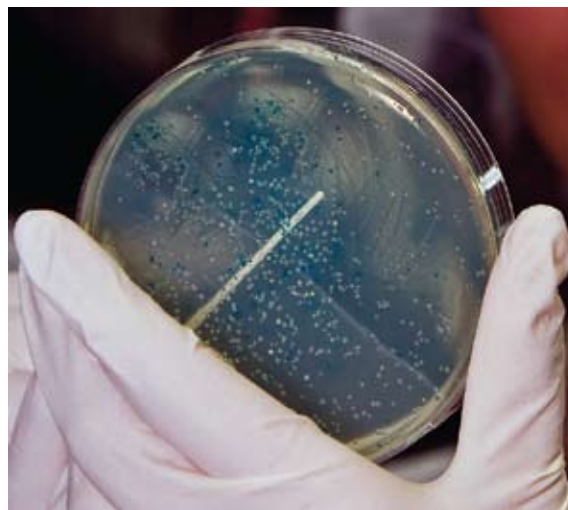
Each 10 ml dropper bottle is sufficient to prepare about 100 plates.

### Also Available

### Non-animal origin (NAO) IPTG

Recommended for *lacZ* induction applications where animal derived products are prohibited

- ▶ Free of animal products
- ▶ Dioxane free
- ▶ Purity >98%



PRODUCT DESCRIPTION	CODE	SIZE	PRICE
X-gal - IPTG Ready Solution	N714-10ML (Dropper bottle)	10 ml	\$53.00
	N714-1.5ML	1.5 ml	\$27.00
IPTG, NAO	N679-1G	1.0 g	\$42.00
	N679-10G	10.0 g	\$245.00

## & Related Products

- ▶ Ampicillin, Code 0339
- ▶ Kanomycin, Code: 0408
- ▶ LB Broth, Miller, Code: J106
- ▶ LB Powder, Non-Animal Origin, Code: N526

Visit [www.amresco-inc.com](http://www.amresco-inc.com) for additional information and related products.

## New Biochemicals

Complete specifications and prices are available at [www.amresco-inc.com/new-biochemicals](http://www.amresco-inc.com/new-biochemicals)

### New Detergent Offerings

Tween® 60

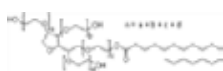
Code: N398

CAS #: 9005-67-8

A non-ionic detergent commonly used as an emulsifier, stabilizer and surfactant.

CMC: 27 mg/L

TWEEN® is a registered trademark of Croda International PLC



Brij® 98

Code: K172

CAS #: 9004-98-2

A non-ionic surfactant for a variety of research and manufacturing applications.

CMC: 0.029% (w/v)

Brij® is a registered trademark of Croda International PLC

Pluronic® F-68

Code: N239

CAS #: 9003-11-6

A non-ionic, co-polymer of ethylene and propylene oxide used in cell culture as an anti-foaming agent and stabilizer of cell membranes against shearing.

Pluronic® is a registered trademark of BASF SE

Triton® X-405

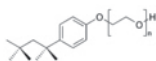
Code: 0471

CAS #: 9002-93-1

A non-ionic detergent for a variety of research and industrial applications.

Supplied as a 70% solution in water.

Triton® is a registered trademark of Union Carbide Corp



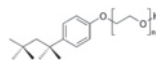
Triton® X-102

Code: K563

CAS #: 9002-93-1

A non-ionic detergent used in a variety of research and industrial applications.

Triton® is a registered trademark of Union Carbide Corp



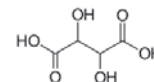
### New Chelating Agent Offerings

L-Tartaric Acid

Code: J316

CAS #: 87-69-4

Chelates Na<sup>+</sup>, K<sup>+</sup> monovalent cations.

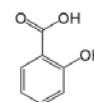


Salicylic Acid

Code: K158

CAS #: 69-72-7

Chelates divalent metal cations

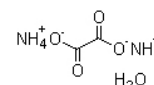


Ammonium Oxalate Monohydrate

Code: E742

CAS #: 6009-70-7

Chelates Cu cations.

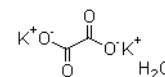


Potassium Oxalate

Code: 94013

CAS #: 6487-48-5

Chelates divalent cations including Ca<sup>2+</sup>, Fe<sup>2+</sup> and Mg<sup>2+</sup>.

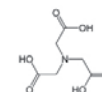


Nitrilotriacetic Acid (NTA)

Code: K296

CAS #: 139-13-9

A polyamino carboxylic acid that chelates di- and tri- metal cations. NTA is similar to EDTA but is biodegradable and easily removed during wastewater treatment



### New Buffer Salt Offerings

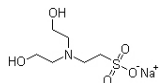
BES, Sodium Salt

Code: N527

CAS #: 66992-27-6

A good buffer optimized for molecular biology and biochemistry applications.

BES, sodium salt. Image courtesy of ChemBlink.com

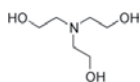


Triethanolamine HCl

Code: N566

CAS #: 637-39-8

A weak base for a variety of research and manufacturing applications



Potassium Sulfate, Anhydrous

Code: 1B1106

CAS #: 7778-80-5



Calcium Sulfate, dihydrate

Code: J142

CAS #: 10101-41-4

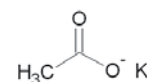


Potassium Acetate, anhydrous

Code: 0942

CAS #: 127-08-2

A precipitating agent for negatively charged molecules in molecular biology applications.

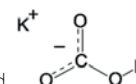


Potassium Bicarbonate

Code: 0889

CAS #: 298-14-6

Widely used in a variety of agricultural, industrial and research applications.



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AMRESCO Inc.  
6681 Cochran Rd.  
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STANDARD  
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