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### Grand Prismatic Spring and Midway Geyser Basin at Yellowstone National Park.

Hot springs such as Grand Prismatic provides a habitat suitable for *Thermus aquaticus*, the source organism for the Taq DNA polymerase required for PCR amplification. Image attribution: Mila Zinkova at en.wikipedia.

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## Ready PCR Mix

*PCR master mix, gel loading buffer and DNA stain in a SINGLE solution*

### Quick & Convenient Reaction Set-Up:

Slash set-up time and consumable use. All PCR reaction components (except user supplied templates and primers) included in a single solution.

### High Fidelity – High Processivity Polymerase:

Includes a high fidelity polymerase cocktail capable of replication length up to 20kb on challenging templates.

### Direct to Gel Convenience:

Provides direct-to-gel sample loading and a fast moving tracking dye for monitoring gel runs.

### Visualize Gel Bands Immediately:

Includes a non-hazardous, non-toxic, fluorescent DNA dye for instant band visualization with U.V. excitation. No staining or destaining needed.

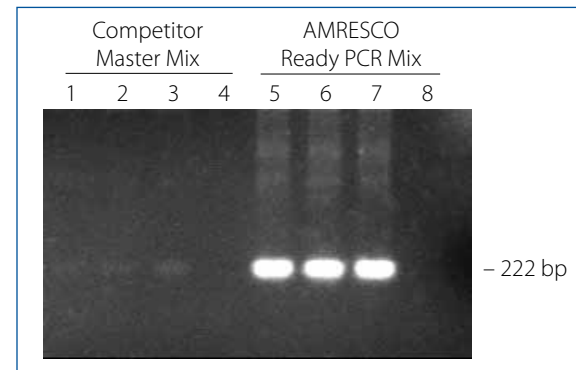
### Reduce Hazardous Waste:

Eliminates ethidium bromide handling and expenses associated with disposal of hazardous waste.

### Streamline Colony Screening:

Pick and screen transformants directly without the need for prior colony growth and DNA purification.

## Superior Performance



**Figure 1. Comparison of DNA amplification by Ready PCR Mix vs a competitor's master mix.**

Amplification products from AMRESKO Ready PCR Mix (Lanes 5-8) and a competitor's master mix (Lanes 1-4) were resolved on a TAE/1.5% agarose gel containing Ethidium Bromide. Ethidium Bromide was included in the gel to visualize the products from the competitor master mix which lacks a DNA dye. Lanes 1, 2, 3: Aliquots (5  $\mu$ l) from triplicate reactions with competitor master mix. Lanes 5, 6, 7: Aliquots (5  $\mu$ l) from triplicate reactions with AMRESKO Ready PCR mix. Lanes 4 & 8: Non-template controls (5  $\mu$ l) from competitor master mix and AMRESKO Ready PCR mix respectively. Data courtesy of Norgen Biotek Corporation.

## RELATED PRODUCTS

- **Agarose I (0710)**
  - An all purpose agarose suitable for both analytical and preparative applications (See page 6)
- **PCR Marker with Loading Dye (K811)**
  - Ready-to-use high resolution DNA marker optimized for size estimation of PCR fragments. 8 fragments ranging from 50-2000bp

Ready PCR Mix is a single solution PCR master mix for PCR reactions, gel loading and band visualization that significantly reduces set-up time and sample handling. The enzyme is capable of high fidelity amplification of long and challenging templates including GC rich templates. All reaction components, except user provided templates and primers, are included. Ready PCR Mix readily amplifies purified plasmid and genomic DNA as well as non-purified templates from transformant colonies added directly to the PCR reaction mix.

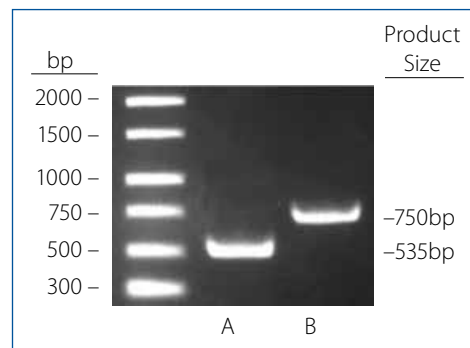
*"Being able to quickly screen multiple colonies at once through PCR while also having separate colonies prepared for further isolation of positive screen tests .... substantially reduces the in-lab time... [PCR Ready Mix]... would certainly become another valuable and powerful research tool utilized in our experiments."*

*Dr. Irene Lee,  
Case Western Reserve University  
Cleveland, OH*

After amplification the reaction mix can be loaded directly onto agarose gels for analysis of amplification products. After electrophoresis, amplification products can be visualized immediately by UV excitation of the gel. The fluorescent DNA dye provided in the reaction mix eliminates the need for post-electrophoresis staining and destaining. The included dye does not interfere with amplification and is non-hazardous and non-toxic. See page 7 for additional information. Ethidium bromide staining and the toxic waste disposal expenses associated with ethidium bromide are eliminated.

PRODUCT DESCRIPTION	CODE	SIZE	PRICE
Ready PCR Mix	N806-2x1.25ML	2x1.25 ml	\$80.00

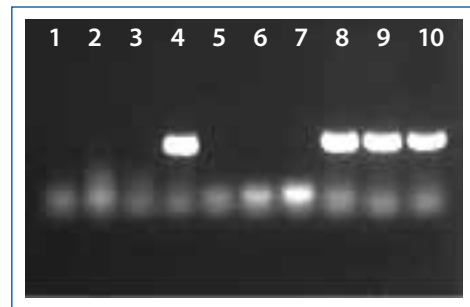
## Efficient Amplification



**Figure 2. Amplification of plasmid and genomic DNA with Ready PCR Mix.**

Single copy targets were amplified from 50ng of pUC19 plasmid (A) or *S. aureus* genomic DNA (B) for 35 cycles. 10 $\mu$ l aliquots of each PCR reaction were directly loaded onto a 1% agarose gel and visualized with a Syngene HR gel doc system.

## Direct Colony Screening



**Figure 3. Amplification of non-purified DNA directly from transformed colonies.**

10 distinct colonies were suspended into Ready PCR Mix in separate PCR tubes. 5  $\mu$ l aliquots of the PCR reaction mix were plated on gridded LB plates with Kanamycin for 37°C overnight growth. After 30 PCR cycles products were screened on a 1% agarose gel. Colonies 4, 8, 9 and 10 contained the desired sequences. Courtesy of Dr. Irene Lee, Case Western Reserve University, Cleveland, OH

## Ready PCR Mix includes:

- Extender™ Taq DNA Polymerase
  - High fidelity polymerase blend
  - Efficient amplification of long and challenging templates
- Optimized Reaction Buffer
  - MgCl<sub>2</sub>
  - dNTPs
- Density Reagent/Tracking Dye
  - Load PCR reaction aliquots directly onto gel
  - Non-interfering, fast migrating dye
- Fluorescent DNA Dye
  - Based on AMRESCO's non-mutagenic and non-toxic EZ-Vision™ formulation (See page 7)
  - Immediate visualization of amplified product with no post-run staining or destaining
  - Eliminates use of ethidium bromide and associated hazardous waste disposal costs

## AVAILABLE SEPARATELY

### Extender™ Taq DNA Polymerase Blend

*A high fidelity polymerase cocktail for improved length and accuracy during DNA amplification*

- Superior yields and purity
- Ideal for amplification of long templates up to 20 Kb
- Excellent for hard-to copy templates with extensive GC rich regions, palindromes, and multiple repeats
- Amplified products include a mixture of blunt ends (majority) and 3' dA overhangs
- Wide tolerance for Mg<sup>+2</sup>, salt concentration, pH and template contaminants

PRODUCT DESCRIPTION	CODE	SIZE	PRICE
<b>Extender DNA Polymerase Blend, 500U</b>	N638-KIT	1 Kit	\$135.00
<i>Includes: DNA Polymerase Blend, 500U</i>			
<i>Buffer A, 10X, 2 tubes - for amplifications up to 8 kb</i>			
<i>Buffer B, 10X, 1 tube - for amplifications &gt;8 kb,</i>			
<i>50 mM MgCl<sub>2</sub></i>			
<i>Sufficient for 250x50ul reactions</i>			

## Column Regeneration Kit

*Regenerate and reuse silica-based DNA mini-column*

- Efficient Regeneration
  - Removes all bound plasmid and PCR DNA from silica based mini-columns
  - Regenerated columns can be used for the same or different DNA
- Easy to use
  - Soak columns in Regeneration Solution for 1 hour to overnight
  - Centrifuge
  - Wash 3X with Wash Solution
- Extended Column Usage
  - Individual columns can be regenerated up to 5 times
- Environmentally Friendly
  - Reduce laboratory waste and environmental impact

PRODUCT DESCRIPTION	CODE	SIZE	PRICE
Column Regeneration Kit	N809-KIT	1 Kit	\$55.00

### KIT INCLUDES

Regeneration Solution, 500 ml  
Regeneration Wash Solution, 250 ml  
*Sufficient for regeneration of 90-120 columns*

## Efficient Removal of Residual DNA from Silica-based Mini-Columns

### Figure 1. PCR analysis of residual DNA recovery during regeneration with Column Regeneration Kit.

pUC19 plasmid DNA, recovered from overnight cultures of JM109 cells that were lysed by alkaline lysis, was applied to silica-based mini-columns and eluted according to manufacturer's instructions. Columns were subsequently regenerated for varying lengths of time with AMRESKO's Column Regeneration Kit. Aliquots (15 µl) of eluates from each time point were analyzed by PCR amplification for recovery of residual DNA. Amplified products were applied to a 1% TAE agarose gel and run for 60 minutes at 80V. Gels were post-stained with 0.5 µg/mL Ethidium Bromide and images captured with a Syngene GBox-HR Gel Doc System.

Lane 1: 5 µl PCR DNA Markers (Code: E854)

Lane 2: PCR amplification control of pUC19 plasmid (50 ng).

Lane 3: PCR amplification of mini column eluate DNA.

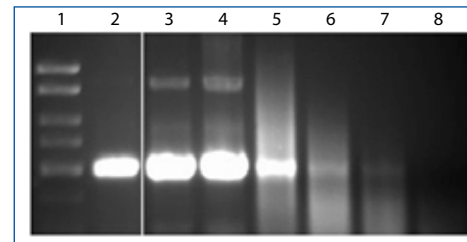
Lane 4: PCR amplification of eluate DNA after a 60 minute soak in H<sub>2</sub>O.

Lane 5: PCR amplification of eluate DNA after a 15 minute treatment with Regeneration Solution.

Lane 6: PCR amplification of eluate DNA after a 30 minute treatment with Regeneration Solution.

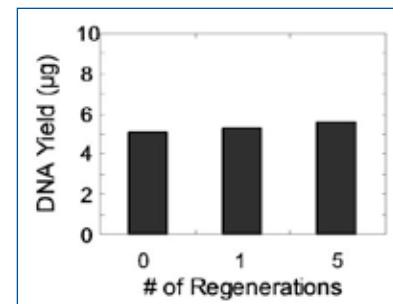
Lane 7: PCR amplification of eluate DNA after a 45 minute treatment with Regeneration Solution.

Lane 8: PCR amplification of eluate DNA after a 60 minute treatment with Regeneration Solution.



## Excellent Recovery of Plasmid DNA after Purification on Regenerated Columns

**Figure 2.** Overnight cultures of DH5a cells containing pET22b(+) plasmid were lysed by alkaline lysis and applied to silica miniprep columns that were not regenerated, regenerated only one time, or regenerated 5 times. Plasmid DNA was eluted with 100µL of 10mM Tris-HCl, pH8.5 and DNA yields were determined by absorbance at 260nm.



# Nucleic Acid Analysis - Agarose gel electrophoresis

## Agarose I™

### All-purpose, High-purity Agarose

- Exceptional Band Resolution & Clarity
- Nuclease & Protease-free

Agarose I™ is a standard melting/gelling agarose, suitable for routine nucleic acid analytical and preparative applications. Agarose I™ has a low EEO for shorter electrophoretic runs without loss of resolution. It is ideal for a variety of downstream applications including cloning, sequencing and Northern or Southern analysis.

**Table 1. Agarose I™ properties**

GEL (%)	OPTIMAL SEPARATION RANGE (bp)	RECOMMENDED BUFFER
0.8	800 – 22,000	TAE
1.0	500 – 10,000	TAE/TBE
1.2	400 – 7,000	TAE/TBE
2.0	250 – 5,000	TBE

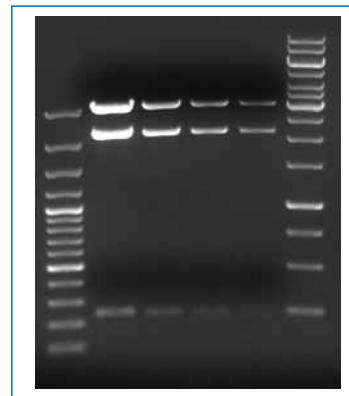
## ALSO AVAILABLE

Agarose I™ Tablets

Convenient 500 mg tablets eliminate the need to weigh agarose powder

Code: K857-100Tabs

## Superior Resolution and Clarity with AMRESCO's Agarose I™



**Figure 1. Superior DNA resolution on AMRESCO's Agarose I™.**

Data courtesy of Dr. Mary Cismowski, Northeastern Ohio Universities College of Medicine, Rootstown, OH, USA. A 1% agarose/TAE gel containing 0.5 µg/ml Ethidium Bromide was prepared with Agarose I™. HincII digested pcDNA3.1-HisC were applied and resolved at 100 V for 55 minutes. Lane 1: 100 bp ladder  
Lane 2: 0.5 µg HincII digested pcDNA3.1  
Lane 3: 0.2 µg HincII digested pcDNA3.1  
Lane 4: 0.1 µg HincII digested pcDNA3.1  
Lane 5: 0.05 µg HincII digested pcDNA3.1  
Lane 6: 1 kb ladder

PRODUCT DESCRIPTION	CODE	SIZE	PRICE
Agarose I™	0710-25G	25 g	\$45.00
	0710-100G	100 g	\$120.10
	0710-500G	500 g	\$406.80

# Nucleic Acid Analysis - DNA Staining

## EZ-Vision

*AMRESCO's non-mutagenic, environmentally friendly alternative to Ethidium Bromide*



### Easy and Convenient

- Fluorescent DNA dye supplied in a 6X loading buffer
- Simply add EZ-Vision™ to your samples and load your gel

### Instant Results

- Visualize DNA instantly with a standard U.V. transilluminator
- Very low background
- Requires no post-electrophoresis staining or destaining
- Works with most existing filters for gel documentation
- Very broad emission spectra with peak near 450 nm

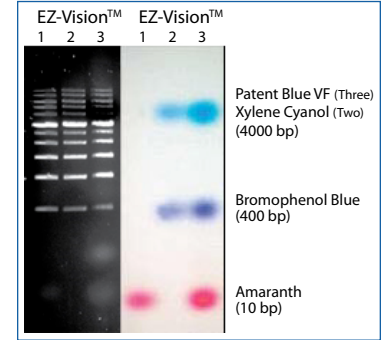
### Better for you and for the environment

- Non-mutagenic and non-toxic
- Non-toxic for waste disposal
- No hazardous shipping, storage or disposal fees

### NOW available with 3 different tracking dye options!

*Each version contains the same non-hazardous fluorescent DNA dye and loading buffer*

**EZ-Vision™ One, Two and Three.** Left image: 1% TAE agarose gel showing the fluorescence of AMRESCO's 1kb Ladder (K180-250µl) stained with EZVision™ One (lane 1), EZ-Vision™ Two (lane 2) and EZ-Vision™ Three (lane3) captured with Syngene GBox-HR Gel Doc System using SP filter selection. Right image: Digital camera photograph of the same gel as left image, showing the colors and migration position of the one fast migrating tracking dye of EZ-Vision™ One (lane 1), the two tracking dyes of EZ-Vision™ Two (lane2), and the three tracking dyes of EZ-Vision™ Three (lane 3).



### Simple, Safe and Sensitive

- Sensitivity similar to Ethidium Bromide at 6ng of DNA above 400 bp, and at 12ng of DNA at 50 bp.
- Does not alter migration of DNA during electrophoresis
- Retains fluorescent signal longer than leading competitor

### EZ-Vision™ Safety Testing

EZ-Vision™ mutagenicity was determined by Ames testing of *S. typhimurium* with and without metabolic activation in an S-9 activation system. Results indicated that EZ-Vision was non-mutagenic at all concentrations tested. Additional information is available at <http://www.amresco-inc.com/ames-test>.

EZ-Vision™ environmental toxicity testing was performed by using the CCR Title 22 Fathead Minnow Hazardous Waste Screen Bioassay. Results indicated that EZ-Vision was non-toxic at all concentrations tested. Additional information is available at <http://www.amresco-inc.com/toxicity>.

PRODUCT DESCRIPTION	CODE	SIZE	PRICE
EZ- Vision One	N472-KIT	KIT	\$115.40
EZ- Vision Two	N650-KIT	KIT	\$115.40
EZ- Vision Three	N313-KIT	KIT	\$115.40

To Place an Order in the USA Call: 800-829-2805 or Order On-line at [www.amresco-inc.com](http://www.amresco-inc.com)

# InvestiGator



## To place domestic orders:

Website:

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

Phone (toll free):

800-829-2805

FAX:

440-349-3255

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## Address change:

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from our mailing list

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