

# RESponse™ RESearch PCR® Agarose

## Introduction

BIOzym RESponse™ Research PCR® agaroses have a very fine molecular sieving structure and are recommended for the separation of nucleic acids of less than 1500 bp in size. BIOzym RESponse™ agaroses are specially suited for the analysis of PCR® products and forensic DNA identities. RESponse™ Research is an intermediate melting and gelling point agarose with a high resolution and superior sieving characteristics. RESponse™ Research has better handling because of its strong gel structure. This agarose is recommended for analytical gels of DNA fragments lower than 1000 bp such as PCR® products, small DNA fragments generated by restriction enzyme digestion and DNA fragments used in mutation analysis.

## Specifications

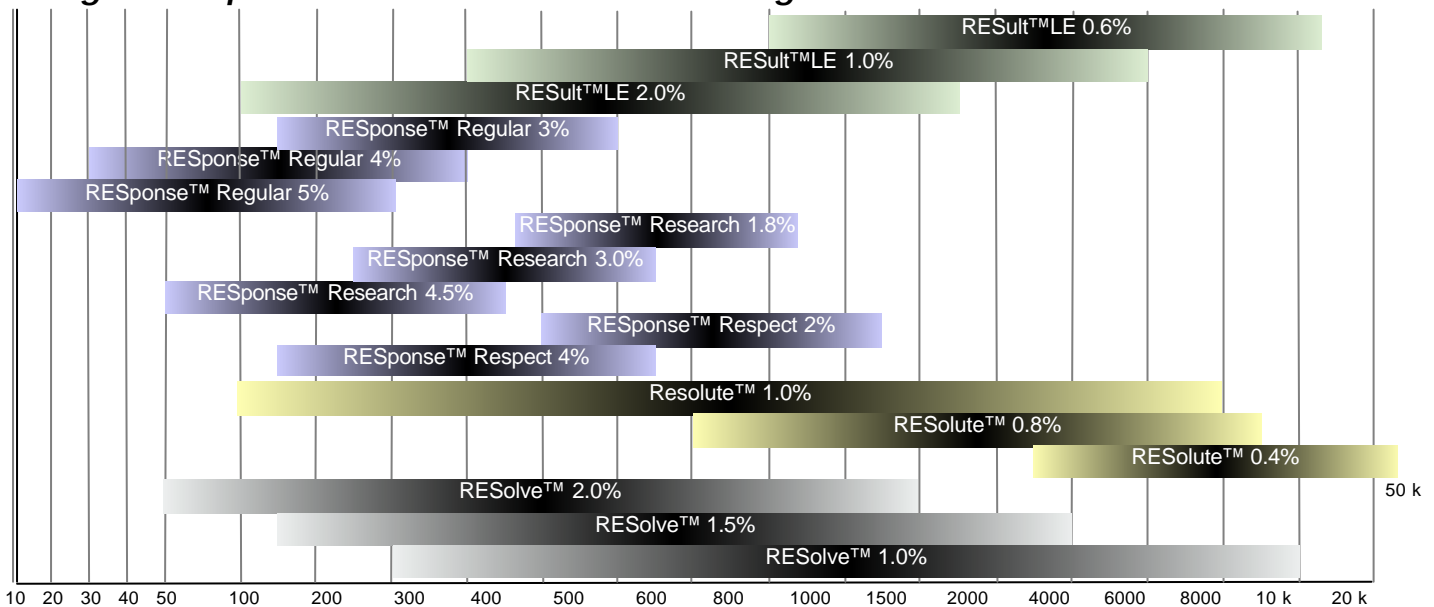
Gelling temperature (1.5%)	± 33°C
Melting temperature (1.5%)	± 71°C
EEO (-Mr)	< 0.11
Gel strength (g/cm <sup>2</sup> )	1% > 400
	1.5% > 950
	3% > 2000

## Approximate ranges of separation

(in 1x TAE buffer)

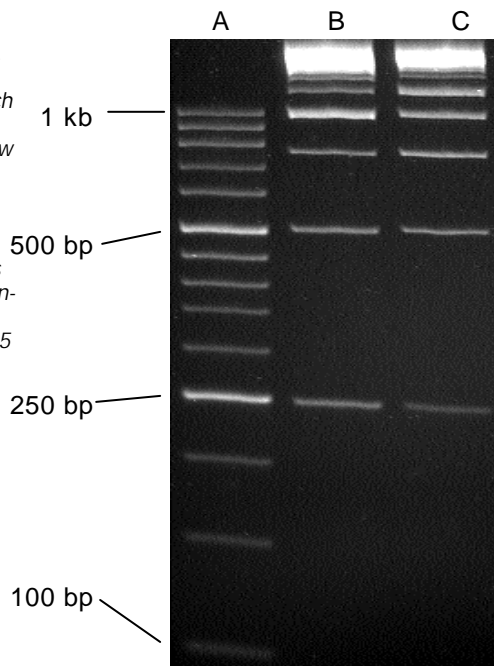
1.8%	500 - 1100 bp
3.0%	250 - 700 bp
4.5%	50 - 450 bp

## Ranges of Separation for all RESource™ Line Agaroses



Approximate ranges of separation, size in basepairs (in 1x TAE)

Separation of DNA markers in 3% RESponse™Research gel.  
Lane A: BIOzym Low Ladder. Lane B: BIOzym Medium/Mass Ladder. Lane C: BIOzym High/mass ladder. Running conditions: 1x TBE buffer, 1.5 hour at 5 V/cm.



## Applications

Separation of PCR® products  
Analytical DNA gels (< 1000 bp)  
Capillary electrophoresis  
Suitable for use in blotting assays with fragments smaller than 600 bp.

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**BIOzymTC BV is part of the BIOzym group**

# Dissolving RESEARCH PCR® Agarose

## **Microwave instructions**

Choose a beaker that is 2-4 times bigger than the volume of the solution.

Place it on a magnetic stirrer and slowly sprinkle the agarose powder at room temperature into the buffer while stirring rapidly, to prevent the formation of clumps.

Remove the stir bar if not Teflon® coated.

Soak the agarose in the buffer for 15 minutes before heating, to reduce the tendency of the agarose solution to foam during heating.

Weigh the beaker and solution before heating. Cover the beaker with plastic wrap and pierce a small hole in the plastic for ventilation.

Heat the beaker in the microwave oven at high power for 1-2 minutes

Gently swirl to resuspend any agarose particles not yet dissolved.

**Caution: Any microwave solution may come superheated and foam over when agitated.**

Reheat 5-15 seconds until the solution comes to boil, leaving 10 seconds between each heating phase to allow any foam to settle. Continue until all of the agarose particles are dissolved.

Remove the beaker from the microwave oven, and gently swirl the agarose solution. Replace the lost weight by adding warm distilled water and mixing the solution gently.

Let the solution cool at room temperature for 15-20 minutes or until it reaches a temperature of 50-60°C. (Alternatively the solution can be left in a heated bath at 55°C for over 30 minutes.

## **Boiling water Bath instructions**

Choose a beaker that is 2-4 times bigger than the volume of the solution.

Place on a magnetic stirrer and slowly sprinkle the agarose powder at room temperature into the buffer while stirring rapidly, to prevent the formation of clumps.

Soak the agarose in the buffer for 15 minutes before heating, to reduce the tendency of the agarose solution to foam during heating.

Weigh the beaker and solution before heating. Cover the beaker with plastic wrap and pierce a small hole in the plastic for ventilation.

Place the beaker in the bath and bring to boil while stirring constantly. Keep the flask in the bath for 15-20 minutes after starting to boil, or until the agarose is completely dissolved.

Stop stirring while keeping the beaker in the bath for an additional 15 minutes. Replace the lost weight by adding warm distilled water and mixing the solution gently.

Let the solution cool at room temperature for 15-20 minutes or until it reaches a temperature of 50-60°C. (Alternatively the solution can be left in a heated bath at 55°C for over 30 minutes.

## **Autoclave instructions**

Choose a beaker that is 2-4 times bigger than the volume of the solution.

Place on a magnetic stirrer and slowly sprinkle the agarose powder at room temperature into the buffer while stirring rapidly, to prevent the formation of clumps.

Weigh the beaker and solution before heating. Cover the beaker with aluminum foil, sealing the opening completely to prevent spillover.

Autoclave at 121°C for 15 minutes.

Replace the lost weight by adding warm distilled water and mixing the solution gently.

Let the solution cool at room temperature for 15-20 minutes or until it reaches a temperature of 50-60°C. (Alternatively the solution can be left in a heated bath at 55°C for over 30 minutes.

## **Hot Plate instructions**

Choose a beaker that is 2-4 times bigger than the volume of the solution.

Place on a magnetic stirrer and slowly sprinkle the agarose powder at room temperature into the buffer while stirring rapidly, to prevent the formation of clumps.

Soak the agarose in the buffer for 15 minutes before heating, to reduce the tendency of the agarose solution to foam during heating.

Weigh the beaker and solution before heating. Cover the beaker with plastic wrap and pierce a small hole in the plastic for ventilation.

Bring the solution to boil while stirring and maintain gently boiling until all agarose is dissolved.

Replace the lost weight by adding warm distilled water and mixing the solution gently.

Let the solution cool at room temperature for 15-20 minutes or until it reaches a temperature of 50-60°C. (Alternatively the solution can be left in a heated bath at 55°C for over 30 minutes.