

Hot Plate Instructions for Agarose Preparation (for Denville® Agarose LE)

Denville Scientific

Abstract

Denville LE Agarose is an all purpose agarose for routine nucleic acid electrophoresis of fragments between 500bp-23,000 bp.

Denville LE Agarose has no detectable DNase or RNase activity.

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Guidelines

Introduction

Denville LE Agarose is an all purpose agarose for routine nucleic acid electrophoresis of fragments between 500bp-23,000 bp. Denville LE Agarose has no detectable DNase or RNase activity.

Analytical Specifications

Gelling temperature (1.5%)	36°C ±1.5°C
Melting temperature (1.5%)	>90°C
Gel strength (1%)	>1,200 g/cm ²

Applications

Analytical electrophoresis of DNA and RNA >1,000 bp

Blotting of DNA and RNA

Suggested Agarose Concentrations

Size Range (Base Pairs)	Final Agarose Concentration (%)	
	1X TAE Buffer	1X TBE Buffer
1,000-23,000	0.60	0.50
800-10,000	0.80	0.70
400-8,000	1.00	0.85
300-7,000	1.20	1.00
200-4,000	1.50	1.25
100-3,000	2.00	1.75

Dye Mobility Table

Migration of double-stranded DNA in relation to Bromophenol Blue (BPB) and Xylene Cyanol (XC) in Denville LE Agarose Gels.

1X TAE Buffer		% Agarose	1X TBE Buffer	
XC	BPB		XC	BPB
24,800	2,900	0.30	19,400	2,850
11,000	1,650	0.50	12,000	1,350
10,200	1,000	0.75	9,200	720
6,100	500	1.00	4,100	400
3,560	370	1.25	2,500	260
2,800	300	1.50	1,800	200
1,800	200	1.75	1,100	110
1,300	150	2.00	850	70

Materials

Agarose [GR140-500](#) by [Denville Scientific Inc.](#)

Protocol

Hot Plate Instructions for Agarose Preparation

Step 1.

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

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Step 2.

Add room-temperature electrophoresis buffer and a stir bar to the beaker.

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Step 3.

Slowly sprinkle the agarose powder while the solution is rapidly stirred

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Step 4.

Weigh the beaker and solution before heating.

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Step 5.

Cover the beaker with plastic wrap.

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Step 6.

Pierce a small hole in the plastic wrap for ventilation.

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Step 7.

Bring the solution to a boil while stirring.

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Step 8.

Maintain gentle boiling until all the agarose is dissolved (approximately 10 minutes).

 DURATION

00:10:00

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Step 9.

Add sufficient hot distilled water to obtain the initial weight.

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Step 10.

Mix thoroughly.

Step 11.

Cool the solution to 50°C-60°C prior to casting.

Warnings

Always wear eye protection when dissolving agarose and guard yourself and others against scalding solutions.

Refer to Material Safety Data Sheet for additional safety and handling information.