MediRes Corp.

USER GUIDE **Bi2M-Agar-E**

Agarose (Electrophoresis-Grade)

Product #: Bi2M-Agar-E
Quantity: 100 g

Product Description

- Agarose is a polysaccharide commonly used in molecular biology for gel electrophoresis applications. It forms a gel matrix when dissolved in a buffer and allowed to cool, providing a porous medium through which DNA molecules can migrate during electrophoresis.
- Ideal for resolving DNA and RNA fragments from 50 bp to >30 kb.
- The formulation has been optimized to achieve strong gel structure, allowing for better handling and less breakage.

Storage

- Room temperature
- Store in a cool and dry place

Product Characteristics

Format	White to off-white powder
Gel strength	≥1200 g/cm2 (1% Gel)
Gelling temperature	36±1.5℃（1.5% Gel）
Melting temperature	88±1.5℃（1.5% Gel）
Electroosmotic value	≤0.13
Sulfate	≤0.15%
Moisture	≤10%
DNase	None Detected
RNase	None Detected
Protease	None Detected

Agarose Gel Concentration	Linear DNA Separation Range (base pairs)
0.5 %	1000-30000
0.7 %	800-12000
1.0 %	500-10000
1.2 %	400-7000
1.5 %	200-3000
2.0 %	50-2000

Protocol

1. Determine the desired agarose concentration based on the size range of DNA fragments you plan to separate. Common concentrations range from 0.5% to 2%.
2. Calculate the amount of agarose powder needed to prepare the desired volume of gel. Use the following formula: (desired agarose concentration in %) x (volume of gel in mL) = (mass of agarose in grams).
3. Add the calculated amount of agarose powder to a microwave-safe container or flask.
4. Measure the appropriate volume of electrophoresis buffer [**TAE** (Cat# G3001-500ML) or TBE] using a graduated cylinder or beaker. The volume will depend on the size of the gel tray and the desired gel thickness.
5. Pour the electrophoresis buffer into the container with the agarose powder.
6. Heat the agarose solution in the microwave or on a hot plate/stirrer until the agarose is completely dissolved. Be cautious not to overheat the solution, as boiling may cause bubbles to form in the gel.
7. Allow the agarose solution to cool for a few minutes until it reaches a temperature suitable for pouring (~55-60°C). This temperature prevents premature solidification of the gel and reduces the risk of causing burns.
8. Add **Safe-Red Nucleic Acid Gel Stain** (Cat# Bi2M-SrRed) or ethidium bromide to solution and mix well.
9. While the agarose solution is cooling, assemble the gel casting tray with the comb inserted to create wells for sample loading.
10. Pour the agarose solution into the gel casting tray, ensuring that the solution covers the bottom of the tray evenly and the comb wells are filled.
11. Allow the agarose gel to solidify completely at room temperature (~20-30 minutes).
12. It is recommended to prepare the agarose gel for immediate use or place it at room temperature for no more than 4 hours. The gel can be wrapped in plastic wrap and placed at 4°C for long-term storage (if the nucleic acid dye is added, it needs to be protected from light). Generally, the gel can be stored at 4°C for 2-5 days.

NOTES:

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