

Agarose

Please read the manual carefully before use.

Cat. No. GS201

Version No. Version 1.0

Storage: Store in a dry place at 15°C-30°C for 4 years

Description

This product is a high-purity agarose, free of DNase, RNase, and protease. When preparing gels, staining with GelStain or ethidium bromide results in low background. It offers strong electrophoretic separation performance with sharp bands, making it suitable for the electrophoresis of various types of DNA and RNA.

Protocol

Gel Preparation

1. Prepare an appropriate volume of buffer for both gel preparation and electrophoresis (typically 0.5x TBE or 1x TAE).
 2. Based on the required gel volume and desired percentage (concentration), add a precisely weighed amount of agarose powder to a conical flask containing a measured amount of electrophoresis buffer. The total liquid volume should not exceed 50% of the flask's capacity. Important: The buffer used for gel preparation must be identical to the electrophoresis running buffer.
 3. Cover the mouth of the flask with plastic wrap and puncture a few small holes in it. Heat the flask in a microwave oven to dissolve the agarose. After the solution begins to boil, wear heat-resistant gloves and carefully swirl the flask to ensure the agarose dissolves evenly and completely. Repeat this heating and swirling process several times until the agarose is fully dissolved.
- Note: Avoid overheating. Stop heating as soon as the solution starts to boil and foam to prevent violent boiling, which can alter the final gel concentration. Ensure the agarose is completely dissolved, as any undissolved particles will result in blurred bands during electrophoresis.
4. Allow the solution to cool to approximately 50°C. If needed, add GelStain (working concentration 1x, non-toxic; refer to GS101 for details) or ethidium bromide solution (final concentration 0.5 µg/ml) at this stage and mix thoroughly.
 5. Pour the dissolved agarose solution into the gel casting tray. Insert a well comb at the appropriate position. The gel thickness should generally be between 3-5 mm. Remove any air bubbles that may have formed.
 6. Allow the gel to solidify at room temperature (approximately 30 minutes to 1 hour). Once set, place the gel in the electrophoresis tank for running. If the gel is not used immediately, wrap it in plastic film and store at 2-8°C. It can typically be stored under these conditions for 2 to 5 days.

Agarose gel concentration	Optimal Resolution Range for Linear DNA (bp)
0.5%	1,000 ~ 30,000
0.7%	800 ~ 12,000
1.0%	500 ~ 10,000
1.2%	400 ~ 7,000
1.5%	200 ~ 3,000
2.0%	50 ~ 2,000

Notes

When preparing the agarose gel solution, be cautious of violent boiling and prevent scalding. Ethidium bromide is a mutagen. Wear a lab coat and disposable gloves when handling solutions containing it.

For research use only, not for clinical diagnosis.

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