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SeaKem® GTG® Agarose

Performance tested for separation and manipulation of DNA >1,000 bp.

Introduction

SeaKem® GTG® Agarose is a standard gelling temperature, high gel strength agarose for resolving DNA fragments between 100 bp to 23,000 bp. This agarose is specifically designed for preparative DNA electrophoresis. A GTG® (Genetic Technology Grade™) Agarose, it is extensively performance tested to ensure compatibility with routine molecular biology techniques.

Analytical Specifications

Gelling temperature (1.5%)	36°C ±1.5°C
Melting temperature (1.5%)	≥90°C
Gel strength (1%)	≥1,200 g/cm²

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 SeaKem® GTG® Agarose Gels.

1X TAE Buffer		%	1X TBE Buffer	
XC	BPB	Agarose	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

Precautions

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.

Microwave Instructions for Agarose Preparation

1. Choose a beaker that is 2-4 times the volume of the solution.
2. Add room temperature 1X or 0.5X electrophoresis buffer and a stir bar to the beaker.
3. Slowly sprinkle in the agarose powder while the solution is rapidly stirred.
4. **Remove the stir bar if not Teflon® coated.**
5. Weigh the beaker and solution before heating.
6. Cover the beaker with plastic wrap.
7. Pierce a small hole in the plastic wrap for ventilation.
8. Heat the beaker in the microwave oven on **High** power until bubbles appear.
9. Remove the beaker from the microwave oven.
   Caution: Any microwaved solution may become superheated and foam over when agitated.
10. **GENTLY** swirl the beaker to resuspend any settled powder and gel pieces.
11. Reheat the beaker on **HIGH** power until the solution comes to a boil.
12. **Hold at boiling point for 1 minute** or until all of the particles are dissolved.
13. Remove the beaker from the microwave oven.
14. **GENTLY** swirl the beaker to thoroughly mix the agarose solution.
15. After dissolution, add sufficient hot distilled water to obtain the initial weight.
16. Mix thoroughly.
17. Cool the solution to 50°C-60°C prior to casting.

Hot Plate Instructions for Agarose Preparation

1. Choose a beaker that is 2-4 times the volume of the Solution.
2. Add room temperature electrophoresis buffer and a stir bar to the beaker.
3. Slowly sprinkle the agarose powder while the solution is rapidly stirred.
4. Weigh the beaker and solution before heating.
5. Cover the beaker with plastic wrap.
6. Pierce a small hole in the plastic wrap for ventilation.
7. Bring the solution to a boil while stirring.
8. Maintain gentle boiling until all the agarose is dissolved (approximately 10 minutes).
9. Add sufficient hot distilled water to obtain the initial weight.
10. Mix thoroughly.
11. Cool the solution to 50°C-60°C prior to casting.

Ordering Information:

Catalog No.	**Size**
50071	25 g
50070	125 g
50074	500 g

For more information on SeaKem® GTG® Agarose, contact Technical Service at (800) 521-0390 or visit our website at **www.Lonza.com.**

For Laboratory Use.

Related Products:
DNA Ladders
DNA Markers
GelStar® Nucleic Acid Gel Stain
AccuGENE® TAE and TBE Buffers