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SeaPlaque® GTG® Agarose

For reliable separation and recovery of DNA >1,000 bp.

Introduction

SeaPlaque® GTG® Agarose is a low melting temperature agarose designed for the separation of DNA fragments between 100 bp to 23,000 bp. SeaPlaque® GTG® Agarose is ideally suited for direct enzymatic manipulation of nucleic acids in remelted agarose. SeaPlaque® GTG® Agarose is tested and certified for ligation-transformation and restriction digestion using remelted agarose protocols.

Analytical Specifications

Gelling temperature (1.5%)	26°C-30°C
Melting temperature (1.5%)	≤65°C
Gel Strength (1%)	≥200 g/cm²

Applications

- Electrophoresis of DNA fragments ≥1,000 bp
- Separation and recovery of megabase-sized DNA fragments with ß-Agarase
- Direct enzymatic manipulation of DNA in remelted agarose

Suggested Agarose Concentrations

Size Range	Final Agarose Concentration (%)	
(Base Pairs)	1X TAE Buffer	1X TBE Buffer
500-25,000	0.75	0.70
300-20,000	1.00	0.85
200-12,000	1.25	1.00
150-6,000	1.50	1.25
100-3,000	1.75	1.50
50-2,000	2.00	1.75

Dye Mobility Table

Migration of double-stranded DNA in relation to Bromophenol Blue (BPB) and Xylene Cyanol (XC) in SeaPlaque® GTG® Agarose gels.

1X TAE Buffer		%	1X TBE Buffer	
XC	BPB	Agarose	XC	BPB
11,700	1,020	0.50	6,100	400
4,000	500	0.75	2,850	280
2,300	350	1.00	1,700	180
1,500	200	1.25	1,000	100
1,000	150	1.50	700	70
700	100	1.75	500	50
550	60	2.00	400	30
320	30	2.50	250	10

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**
50111	25 g
50110	125 g

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

Related Products:
DNA Ladders
DNA Markers
GelStar® Nucleic Acid Gel Stain
AccuGENE® TBE and TAE Buffers
AccuGENE® Molecular Biology Buffers
ß-Agarase

For Laboratory Use.