AGAROSE

Introduction

Agarose is an essential tool in separation techniques such as electrophoresis extensively used in molecular biology. Agarose can separate macromolecules such as nucleic acids and proteins, and larger particles (subcellular fragments and viruses).

All agarose applications take advantage of the special characteristics of the macroreticular gel or matrix that it forms. This matrix acts as a sieve and/or support for macromolecules or particles.
Agarose is very stable and non-toxic, making it easy to transport, store and handle.

Features

- ✓ Extraordinary mechanical resistance for more reliable and easier handling;
- ✓ Possibility of varying pore size in accordance with particle size by modifying the gel concentration;
- ✓ Easy preparation of the gel by simple dilution in aqueous buffers either by standard boiling or microwaving;
- ✓ Greater thermal stability due to high hysteresis (difference between gelling and melting temperatures);
- ✓ Excellent transparency of the gel and high visibility;
- ✓ Exceptionally low absorption of staining agents;
- ✓ Absence of toxicity (polyacrylamide is neurotoxic).

Applications

- ✓ Electrophoresis;
- ✓ Chromatography (gel, affinity, ion exchange);
- ✓ Immonudiffusion;
- ✓ Biocatalytic support;
- ✓ Solid Culture media;
- ✓ Growth of protein crystals.

Precautions

Always wear eye protection when dissolving agarose and guard yourself and others against scalding solutions. For more information visit our website www.bioamerica-inc.com .

Microwave Instructions for Agarose Preparation (for ≤ 2% concentration)

1. Using a flask 2-4 times the desired solution volume, add cold buffer and a stir bar;
2. Put the flask on a plate magnetic stirrer and slowly sprinkle the agarose powder while stirring constantly to prevent the formation of agarose clumps. Remove the stir bar;
3. Weigh the flask and solution before heating.
4. Place in the microwave and heat on high power for two minutes;

Note: *Since some microwave ovens have different operating strengths, some foaming may occur before the two minutes. If foaming occurs before two minutes, remove after one minute and carefully swirl the flask as in the step below. Replace in the microwave and continue to heat for another minute.*

5. Remove carefully as any microwaved solution may become superheated and foam over when agitated. Gently swirl to resuspend any agarose particles;
6. Reheat on high power using 15-20 second intervals or until the solution comes to a boil, and solution is complete;
7. Remove carefully and gently swirl.
8. Return the flask to its original weight by adding warm distilled water;
9. Mix gently and cool to 50-60ºC (at room temperature for at least 10 minutes) before pouring into tray.

Microwave Instructions for Agarose Preparation (for > 2% concentration)

1. Using a flask 2-4 times the desired solution volume, add cold buffer and a stir bar;
2. Put the flask on a plate magnetic stirrer and slowly sprinkle the agarose powder while stirring constantly to prevent the formation of agarose clumps. Remove the stir bar;
3. Let to hydrate the powder during 15 minutes at least;
4. Weigh the flask and solution before heating;
5. Place in the microwave and heat on high power for two minutes;
6. Remove carefully as any microwaved solution may become superheated and foam over when agitated. Gently swirl to resuspend any agarose particles;
7. Reheat on high power using 15-20 second intervals or until the solution comes to a boil, and solution is complete;
8. Remove carefully and gently swirl;
9. Return the flask to its original weight by adding warm distilled water;
10. Mix gently and cool to 50-60ºC (at room temperature for at least10 minutes) before pouring into tray.

Boiling Water Bath Instructions for Agarose Preparation (for ≤ 2% concentration)

1. Using a flask 2-4 times the desired solution volume, add cold buffer and a stir bar;
2. Put the flask on a plate magnetic stirrer and slowly sprinkle the agarose powder while stirring constantly to prevent the formation of agarose clumps;
3. Weigh the flask and solution before heating;
4. Bring the solution to a boil while stirring and allow to gently boil for approximately 15-20 minutes or until the agarose dissolves completely;
5. Return the flask to its original weight by adding warm distilled water;
6. Mix gently and cool to 50°- 60ºC (at room temperature for at least 10 minutes) before pouring into tray.

For more information about BioAmerica Agaroses and another products visit our website at www.bioamerica-inc.com

BioAmerica, Inc.
12595 SW 137th Ave Suite 311
Miami FL 33186 USA
Phone/Fax: (305) 395.7674 / 395.5215
www.bioamerica-inc.com
support@bioamerica-inc.com