

Protocol: Brain Phantom Preparation

Description: This document outlines the procedure for preparing brain phantom or agarose gel for insertion purposes.

Note: Standard equipment and materials (e.g. tweezers, microwave, DI water, cleanroom wipes, scale, etc.) are not listed in materials lists.

1 BRAIN PHANTOM PREPARATION (0.6% AGAROSE GEL)

1. Measure 0.72 g agarose powder
2. Measure 120 mL of deionized (DI) water
3. Mix agarose powder and measured DI water in a beaker
4. Load the mixture into microwave, set power level to 10, and heat for approximately 1 minute
5. Remove the beaker from the microwave and stir the mixture by using a stirring rod
6. Reload the beaker to the microwave and heat it for another 30 s
7. Remove the beaker once more and stir the mixture
8. If needed, repeat the heating step for 10 s intervals until the agarose is transparent (Note: short duration heating cycles are employed to prevent boiling the agarose)
9. Pour the liquid agarose into the designated mold (size of container depends on desired insertion depth)
10. Cover the surface of agarose with a glass slide to ensure that the solidified gel has a flat surface
11. Allow the agarose to solidify at room temperature for approximately 10 minutes
12. Weigh the entire mold and label it
13. Seal the mold using parafilm to prevent contamination or drying
14. Store the agarose mold in a lab refrigerator
15. Weigh the agarose before use and dispose if the weight loss exceeds 10%

APPENDICES

A. MATERIAL SOURCES

Note: Standard materials (e.g. DI water, cleanroom wipes, parafilm, etc.) are not listed

Material	Supplier
Agarose Powder	SIGMA Life Science