

Preparing Agar Plates & Growing Bacterial Colonies

Your task today is to make two agar plates that will be used for an experiment in the next class.

Overview

Procedure

PART 1: Making the Agar Plates

1. LB agar comes as a powder which needs to be mixed with DI water, heated to boiling point, poured into the petri dish, and then left for 10-15 minutes for it to set. The first step is to calculate the amount of LB agar required based on the number and size of the petri dishes to be poured. For this activity, you need to prepare two 100 mm petri dishes and each dish requires about 25 mL of liquid agar. If 20 grams of LB agar and needed per 500 ml of DI water, then you need to weigh _____ grams and mix it with _____ mL of DI water.
2. Label the bottom of each petri dish with the names of your group and the date. Make sure to do this in a circular fashion around the perimeter. One dish should be labeled 'Kirby Test' and the other with a location around the school to be determined by your group.
3. Add _____ g of agar powder to _____ ml of DI water. Use a graduated cylinder to measure the volume of DI water.
4. Boil the agar in a large beaker until you see it actively bubbling.
5. Carefully remove the beaker from the microwave and pour (divide evenly between) into each petri dish.
6. Allow the agar to set and cool before using. The petri dish labelled 'Kirby Test' should be put aside on the cart for an experiment we will be doing next period.

PART 2: Testing Various School Locations for Bacteria

1. Discuss with your group an interesting location around the school where you might find a rich supply of bacteria.
2. Using one of the dishes, (the other plate will be used for another experiment) and a bacterial spreader, touch/scrape the area you want to test and gently streak the agar plate and return the lid to the plate.
3. Put the petri dish into the incubator and set the temperature to 37° degrees Celsius.

Results

Remove your plates from the incubator and describe what you see. In addition, make a sketch showing the approximate size and distribution of the bacterial colonies.

Conclusion

What can you conclude about the area where you sampled for bacteria?