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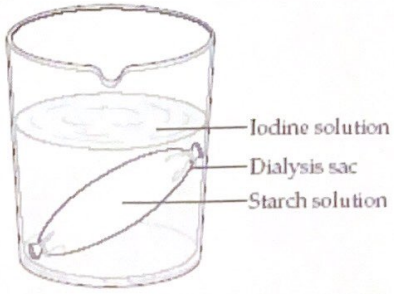
Bio 103

Lab G

Diffusion Across a Membrane

Materials:

- Iodine Solution
- Corn Starch Solution
- Transfer Pipette
- 250 mL Beaker
- 100 mL Beaker
- Dialysis Tubing
- String
- Tap Water



In this lab, we will use dialysis tubing to demonstrate the selective permeability of a cell's plasma membrane.

1. In your kit you will find a bottle labeled "Corn starch". Fill this bottle with tap water and shake until the cornstarch is well dissolved in the water.

2. Fill your 100 mL beaker about halfway up with tap water, add the dialysis tubing until it becomes soft and pliable. While it is still in the water, gently rub the tubing with you fingers to open it at the ends. Once it opens, use your finger to create a larger opening.

3. Form a bag with the dialysis tubing by closing one end with string. Using a transfer pipette, fill the tube with cornstarch, leaving enough of the tube empty so that you can tie it off so that both sides of the tube are securely tied.

4. Add 50 mL of iodine into your 250 mL beaker. Immerse the cornstarch filled dialysis sac into the iodine solution. What changes do you see? Record your observations below.
   After only a few minutes, the entire sac turned black in color. The tubing and string came up black.

5. Now let try this in reverse. Repeat the steps above using the second dialysis tubing, but this time add iodine inside the tubing and submerge it in 50 mL of your corn starch solution. What changes do you see? Record your observations below.
   In the second test, the iodine filled tube turned the 50mL of starch water to the color purple.