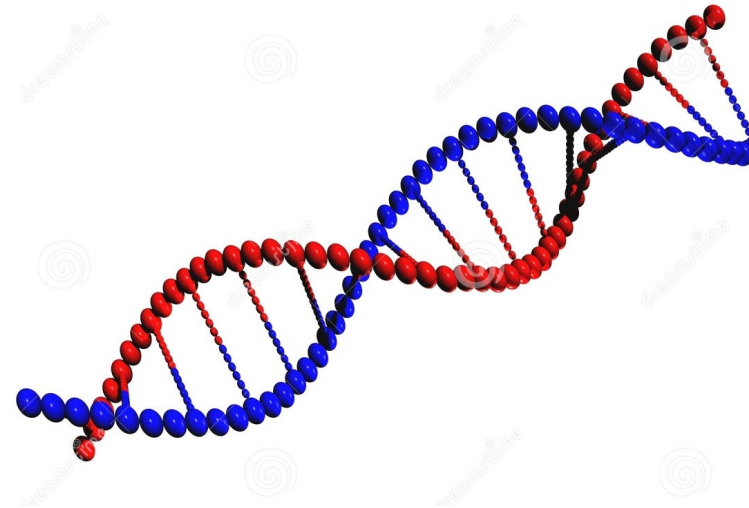


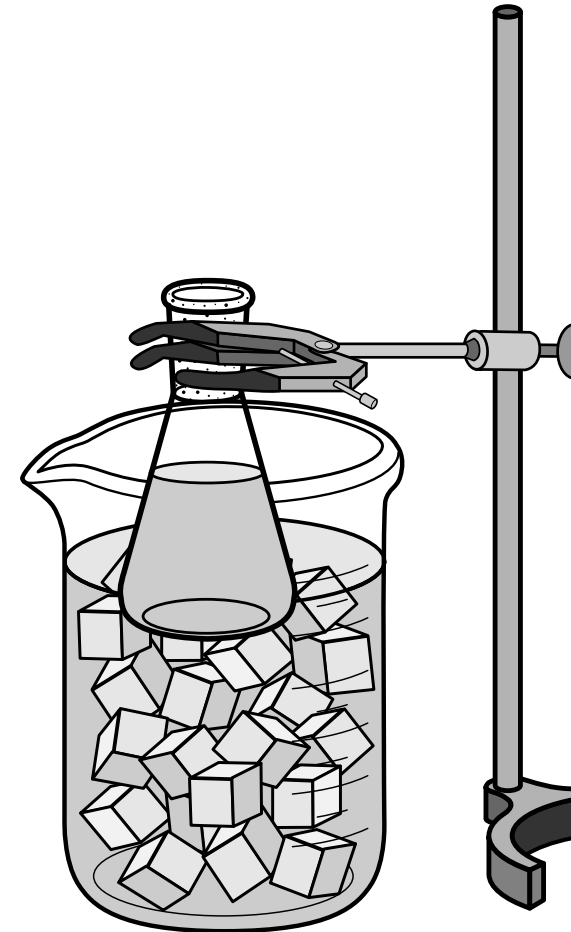
Exp 09: DNA Isolation



A Preparation of Extraction Solution

Prepare the solution for extracting DNA.

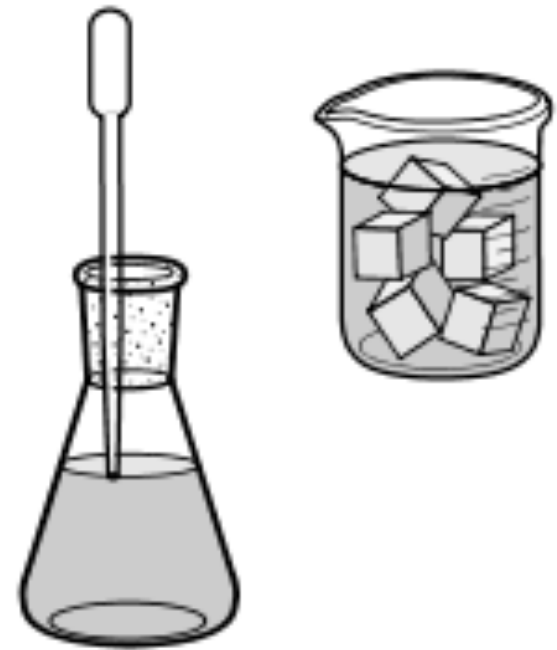
1. Prepare an ice bath by filling the 400 mL beaker about one fourth full with ice and adding about 200 mL of tap water.
2. In a 250 mL Erlenmeyer flask prepare a homogenous mixture of:
 1. 1.5 grams of sodium chloride
 2. 5.0 grams of sodium bicarbonate (sodium hydrogen carbonate; NaHCO_3)
 3. 5 mL of laundry detergent
 4. 120 mL of deionized water
3. After the Erlenmeyer solution is completely dissolved, chill it by placing the Erlenmeyer flask in the ice bath for approximately 5 minutes.
4. Collect 10 mL of iso-propyl alcohol in a 10 mL graduated cylinder. Place the cylinder in the ice bath.
5. Collect about 10 mL of the fruit paste in a 50 mL beaker.



B Extraction of DNA

Pulling the DNA into water.

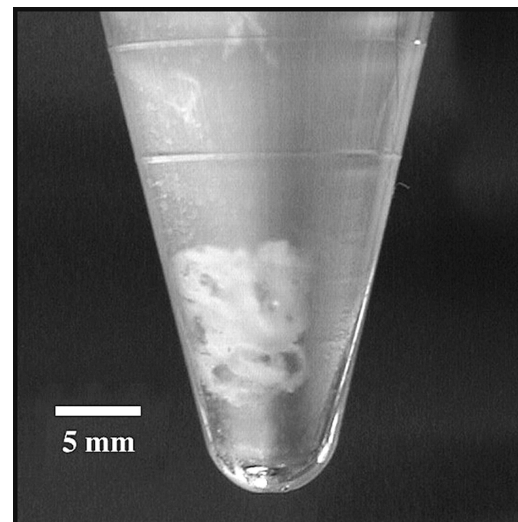
1. Add 20 mL of your extraction solution to the 50 mL beaker containing the fruit paste.
2. Stir the extraction solution into the paste vigorously for about 2 minutes.
3. Allow the heterogeneous mixture of fruit paste and extraction solution to settle (this should take a few minutes).
4. Using a pipet (eye dropper) carefully transfer the clear liquid from your 50 mL beaker to a 100 mL graduated cylinder. Be careful not to disturb the settled solid at the bottom of the beaker.



C Precipitation of DNA

Bringing the DNA back out of solution.

1. With a clean pipet, gently add 10 mL of chilled iso-propyl alcohol to the DNA solution in your 100 mL graduated cylinder. Tilt the graduated cylinder, place drops of the isopropyl alcohol on the side of the cylinder and allow them to gently run to the top of the extraction solution.
2. If added gently the iso-propyl solution will form a separate phase on top of the water, a bilayer of alcohol over water.
3. Move the tip of the pipet to just below the surface of the bottom layer and slowly stir the lower solution, lifting it into the alcohol phase.
4. Watch the solution carefully, record your observations.



Questions?

