

Peach DNA Extraction

Materials

- frozen peach (thawed)
- knife
- blender
- bottle
- 100 ml graduated cylinders
- teaspoon
- distilled water
- Palmolive detergent
- non-iodized salt
- 250 ml beaker
- strainer
- coffee filter
- Adolph's natural meat tenderizer
- stirrer
- Popsicle stick
- test tube
- 10 ml graduated cylinders
- ice-cold 95-percent ethanol

Protocol

1. Prepare the extraction buffer (450 ml distilled water, 25 ml Palmolive, and 1 tsp salt) in a bottle. Slowly invert the bottle to mix the solution. Add 100 ml of the buffer to the blender.
2. Blend on high for 30–60 seconds.
3. Strain the mixture into a beaker using a strainer with a coffee filter.
4. Add 20–30 ml meat tenderizer and stir to mix.
5. Place 6 ml of the mixture in a test tube.
6. Pour 6 ml of ice-cold ethanol carefully down the side of the tube to form a layer.
7. Let the mixture sit undisturbed 2–3 minutes until bubbling stops. The DNA will float in the alcohol.
8. Swirl a Popsicle stick rod at the interface of the two layers and gently spin the DNA onto the stick.

Name _____ Date __/__/__

Answer the following questions.

1. What caused the DNA precipitate from the cell?
2. How did the class break down the cell wall of the fruit?

True or False

____ 3. The cell membranes were broken after we added ethyl alcohol.

DNA is so small a single strand can't be seen with the naked eye, why then were you able to see the extracted DNA?

DNA is made up of three basic units, phosphate, _____, and _____.

Complete the DNA sequence:

A-
G-
T-
C-
C-
C-
T-
G-
T-
A-