

DNA Extraction Lab/Demo

Objectives:

Students will learn how to extract DNA from various foods.

Materials:

Dry split peas, blender, detergent, toothpicks, meat tenderizer, alcohol, onions, yeast, broccoli, raw chicken liver, and strainer

Procedure:

1. Measure 1 cup of water, 1/4 cup of peas and 1/4 tsp. of salt. Stir until salt dissolves. Leave peas overnight to soften them.
2. Put peas and salt water in blender and blend for a couple of seconds...this should be lumpy...too much blending chops up the DNA
3. Add a few drops of soap to the peas and water in a new container.
4. Filter 1/3 cup of mixture through the strainer.
5. Wet the end of a toothpick and dip it into the meat tenderizer.
6. Put the end with the enzymes into the mixture and gently stir.
7. Slowly add about 1/3 cup of alcohol...this will form a layer on top.
8. Watch as the DNA precipitates through the alcohol. Small bubbles will attach to the strands as they rise up through the alcohol. Use the toothpick to gently stir the alcohol layer.

Questions for discussion:

1. What role did the tenderizer play in the DNA extraction?

2. What parts of cells were most affected by the soap?

Try the above procedure with the different types of foods.