

How to get DNA from Wheat Germ

This is a quick and dirty DNA extraction.

Protocol

1. Obtain 2 g of wheat germ and place in a large test tube.
2. Add 20 mL of 55°C 2% NaCl solution and place your tube in the 55°C water bath. Mix regularly with a glass stirring rod for 5 minutes.
3. Add 25 drops of detergent and mix **gently** for 5 s every 30 s for 5 minutes. Try not to create foam.
4. Tilt the test tube and SLOWLY add 20 mL of ice cold ethyl alcohol down the side so that it forms a layer on top of the water/wheat germ/detergent mixture. Do not mix the two layers.
5. Let the test tube stand for 2 min. White, stringy DNA will begin to appear at the interface between the two layers.
6. After 2 minutes, record your observations of the DNA and then stir the mixture gently with your stirring rod. Often, more DNA will appear. Try to recover the DNA using a wood splint.

Questions

1. For each of the following, state why the particular step was important:
 - a) Adding salt.
 - b) Detergent
 - c) Ethyl alcohol
2. Why was wheat germ used for this extraction?
3. If bacterial cells had replaced wheat germ in this extraction, could the same protocol be used?