

## Lana Hays

### Materials

fresh onions  
graduated cylinders (10ml and 100ml)  
knife  
15-ml test tube  
blender  
test tube rack or 250 ml beaker  
strainer  
glass stirring rod  
coffee filters  
non-iodized salt  
Adolph's natural meat tenderizer  
Palmolive detergent  
beaker  
distilled water  
ice cold 95% ethanol

### Solutions

#### Detergent/salt solution:

20 ml detergent  
20 g non-iodized salt  
180 ml distilled water

#### 5% meat tenderizer solution:

5 g meat tenderizer  
95 ml distilled water

### Protocol

1. Cut an inch square out of the center of 3 medium onions. Chop and place in a blender.
2. Add 100 ml of detergent/salt solution.
3. Blend on high 30 sec-1 minute.
4. Strain the mixture into a beaker using a strainer with a coffee filter.
5. Add 20-30 ml meat tenderizer and stir to mix.
6. Place 6 ml filtrate in a test tube.
7. Pour 6 ml ice cold ethanol carefully down the side of the tube to form a layer.
8. Let the mixture sit undisturbed 2-3 minutes until bubbling stops.
9. The DNA will float in the alcohol. Swirl a glass stirring rod at the interface of the two layers to see the small threads of DNA.

Modified from: "Isolation of DNA from Onion" Ellen Averill