



## Extraction of DNA

In this lab we will extract DNA from kiwi (preferably not ripe), banana, tangerine or thawed frozen strawberry's.

**Material:** about 5 beakers (one to store the fruit in), a small beaker for the salt, 2 pipettes or tablespoon measurements, 2 spoons, a funnel, one coffee filter, a scissor and some kitchen paper.

**Chemicals:** Dishwashing detergent-solution (dissolve about 1 table spoon hand-dish washing detergent in about ½ dl water, this is enough for 1-3 experiments), ethanol (e.g. T-röd works) and about 1 tsb table salt.

**Preparations:** Cool the ethanol in freezer for about 2 hours before the experiment begins and cut out a large circle out of the coffee filter, to use for the filtration later.

1. Squash a piece of fruit to a fine jam, in a clean beaker (you choose yourself with fruit to extract the DNA from).
2. Use the pipette or table spoon measure to “Cover” the fruit-jam with the dishwasher detergent solution, so that there is about as much detergent as there is fruit-jam in the beaker. Mix carefully so that no foam is created.
3. If you have chosen kiwi, then add a pinch of salt to the beaker. If you have chosen another fruit then add about half a table spoon of salt to the beaker. Mix the solution carefully so no foam is created.
4. Prepare the filter paper in a funnel and put the funnel in a clean beaker. Start by folding the filter paper in the middle twice, unfold it and “fold away” ¼ of the filter paper so it takes on the shape of a cone. Use a pipette or table spoon measurement to dampen the filter paper slightly, with the detergent solution.
5. Pour the fruit-solution in to the filter paper in the funnel, with out the solution reaching up to the edge of the filter paper and make sure the liquid dripping from the funnel is collected in a clean beaker. This step may take up to 20 min. Carefully scrape the edge of the filter paper with your spoon to hurry on the filtering process. If the filter paper breaks or if the fruit-solution reaches above the edge of the filter paper then restart from step 4.
6. Approximate how large the volume of the filtrate is (the liquid that has gone though the funnel). Add approximately the same amount of the cold ethanol, using a pipette or a table spoon measure.
7. Carefully stir the mixture using a clean spoon. Use the spoon to scrape up the jelly forming. The DNA looks like a transparent jelly and if one is careful the jelly can be pulled out to reveal that it consists of several long “threads”.
8. Clean up and wash up after yourself. The fruit-jam can be thrown out in the retting-compost (if you have your own compost at home you should though it out in burnable waste). The filter paper should be put in burnable waste all liquids can be flushed down the drain, since there is only a small amount of the liquids.