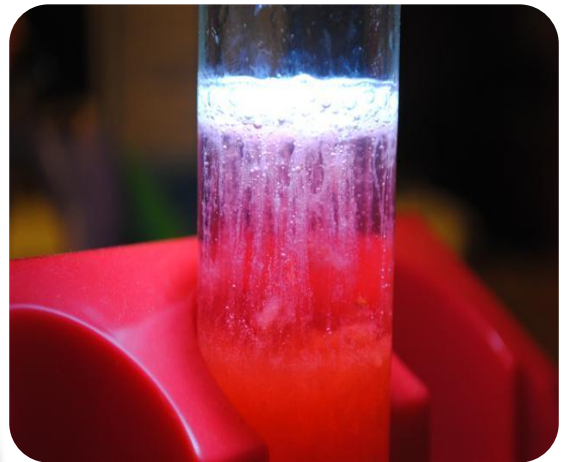
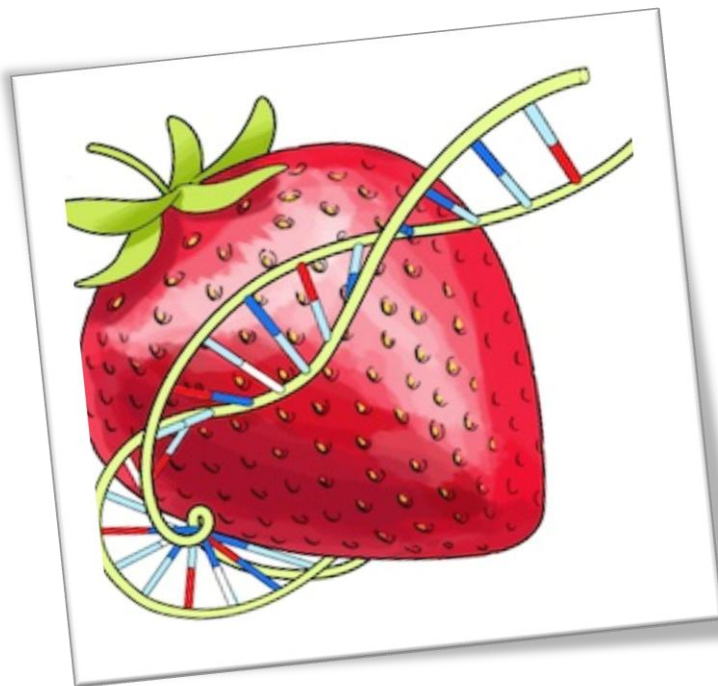


Ministry of Higher Education
King Abdul Aziz University
Faculty of Science
Department of Biological science



DNA Fruit Extraction



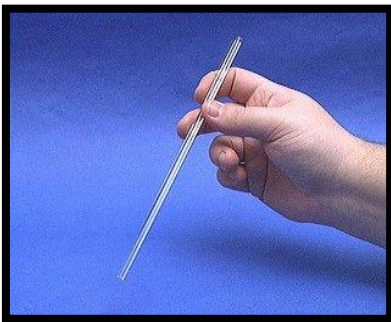
Done By

T.Maha Alhasnani

DNA extraction from strawberries

Materials needed for one extraction

1. Zip lock plastic bag.
2. 1 strawberry.
3. 10 ml DNA extraction buffer.
4. Gauze, paper towel or cheesecloth.
5. Funnel.
6. Ice cold ethanol or isopropanol.
7. Plastic transfer pipette (**pasteur pipette**)
8. Clear test tube.
9. Long wooden skewer or glass rod.



glass rod



wooden skewer



cheesecloth



test tube

How to prepare DNA extraction buffer

- 2 ml of liquid dish washing detergent or shampoo.
 - 0.3 g salt.
 - 18 ml water.
- Measure the detergent and water in a measuring cylinder, and weigh out the salt. Then, combine ingredients into a labelled bottle or beaker.

Note, Making 50ml from extraction buffer is enough for 5 extractions.

The procedure

- 1) Wash the strawberry and remove the sepals and put it into a zip lock plastic bag.
- 2) Add 10mL of the extraction buffer and seal the bag tightly. **Note,** make sure that there is no air bubbles.
- 3) Mash the strawberry and extraction solution for 5 minutes. **Note,** Do not crush the strawberry too much as this will cause the DNA to shear/degrade.
- 4) Place the funnel lined with gauze into the test tube.
- 5) Pour the mixture of strawberry & DNA extraction buffer into the gauze.
- 6) Gently, squeeze the gauze.
- 7) Keep the filtered liquid into the tube and discard the gauze and the strawberry remains.
- 8) Add 5 ml of 70% alcohol.
- 9) At the interface of the alcohol and strawberry solution, DNA fiber will appear. **Note,** Keep the tube still at eye level and do not shake it.

The concept

- ✓ Crushing the strawberries breaks strawberry cells, releasing the nuclei where the DNA is.
- ✓ The detergent in the extraction buffer breaks down the fatty membranes of the cells, and nucleus to releases DNA into solution.
- ✓ The salt makes the DNA molecules stick together, and separate from the proteins that are also released from the cells.
- ✓ The gauze retains strawberry cell debris.
- ✓ The strawberry DNA is dissolved in the DNA extraction buffer, which will pass through the gauze into the test tube.
- ✓ DNA is insoluble in alcohol, so it precipitates.
- ✓ DNA's strawberry - long, thread-like.