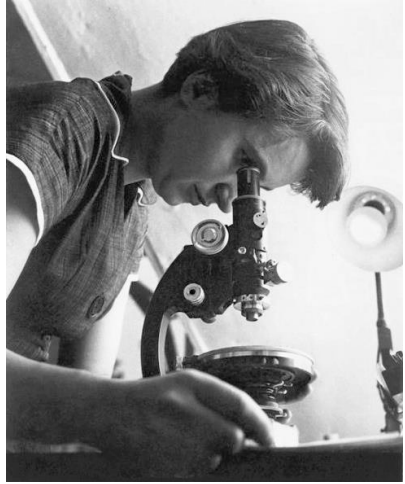


ROSALIND FRANKLIN



Rosalind Franklin was a British chemist and X-ray crystallographer, recognized for her pivotal contributions to understanding the molecular structures of DNA, RNA, and viruses. Born in London in 1920, she faced significant gender bias in her academic pursuits, yet her determination led her to excel in the field of science. Franklin conducted groundbreaking work at King's College London, where her X-ray diffraction images of DNA provided critical evidence for the double helix structure. Despite her significant contributions, Franklin's work was often overshadowed, and she did not receive the recognition she deserved during her lifetime. Today, she is celebrated as a pioneer in molecular biology, and her legacy continues to inspire future generations of scientists, particularly women in STEM.

"Science, for me, gives a partial explanation for life. In so far as it goes, it is based on fact, experience and experiment."

The Dark Lady of DNA

Rosalind Franklin is celebrated for her critical contributions to the discovery of the DNA double helix structure. Through her meticulous work with X-ray diffraction, she captured the famous "Photo 51," an image that revealed the helical structure of DNA and provided essential data for understanding how genetic information is stored. Franklin's precise analyses extended beyond DNA, as she also made significant contributions to understanding the structures of RNA, viruses, and coal. Her work laid the foundation for modern molecular biology, and despite facing limited recognition in her lifetime, she is now regarded as one of the key pioneers who illuminated the intricate architecture of life's building blocks.

More information

[DNA](#)

[RNA](#)

[Photo 51](#)

Experiment: Extracting DNA from Strawberries

Did you know that you can extract DNA from fruits like strawberries using common household materials? This experiment allows you to visualize DNA, similar to how Rosalind Franklin used X-ray crystallography to understand the structure of DNA.

What you need

1. Materials: 2-3 ripe strawberries (or any soft fruit), 1 cup of water, 1 tablespoon of dish soap (this helps break down cell membranes), 1 teaspoon of salt (to help the DNA precipitate), A fine mesh strainer or coffee filter, A clear glass or cup, Rubbing alcohol (cold, preferably chilled in the freezer), A stirring stick or toothpick
2. Prepare the Mixture: In a cup, mix 1 cup of water with 1 tablespoon of dish soap and 1 teaspoon of salt. Stir gently until the salt dissolves.
3. Mashing the Strawberries: Place the strawberries in a bowl and mash them with a fork or your hands until they are well crushed. This breaks open the cells and releases the DNA.
4. Combine the Mixtures: Add the mashed strawberries to the soapy salt solution and stir gently for about 5 minutes. This helps to break down the cell membranes and release the DNA into the solution.
5. Straining the Mixture: Use a fine mesh strainer or coffee filter to strain the mixture into a clean glass or cup. You should see a liquid that looks somewhat cloudy.
6. Extracting the DNA: Slowly pour cold rubbing alcohol down the side of the glass so that it forms a layer on top of the strawberry liquid. Do not mix. After a few minutes, you should start to see white, stringy strands forming between the alcohol and the strawberry liquid. This is the DNA!
7. Observing the DNA: Use a toothpick or a stirring stick to spool the DNA strands.

Discussion

1. What do you observe in the extracted solution after adding the alcohol?
2. How would you describe the appearance and texture of the DNA strands?
3. Why do you think the dish soap and salt are important in this experiment?
4. How might the amount of DNA extracted vary if you used a different fruit or vegetable? Why?



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