

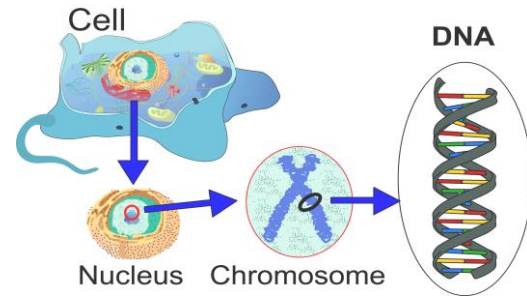
ForsythTeens

At Home Science Experiments

HOW TO EXTRACT DNA from a STRAWBERRY

Grade Levels Middle/High School

DNA, short for deoxyribonucleic acid, is the hereditary material in humans and almost all other organisms. DNA is the molecule that contains the genetic code of organisms. DNA is composed of two polynucleotide chains that coil around each other to form a double helix carrying genetic instruction for the development, functioning, growth and reproduction of all known organisms and many viruses.



Materials

- Strawberry
- Isopropyl alcohol(5mL)
- Dish soap(10mL)
- Salt(1/4tsp)
- Strainer
- Water(90mL)
- Measuring cups and spoons
- Small glass container
- Spoon
- Tweezers
- Zip-lock bag



Procedure

1. Put a bottle of Isopropyl alcohol in a freezer.
2. Measure 6 tablespoons (90mL) water into a small glass container. Add 2 teaspoons(10mL) dish soap to the water.
3. Stir in 1/4 teaspoon salt and mix until the salt dissolves. This is the extraction mixture.
4. Place one strawberry into a zip-lock bag and pour the extraction mixture into the bag with the strawberry. Remove as much air from the bag and seal it closed.
5. Use your hands and fingers to mash the strawberry. Make sure there are no large pieces remaining.
6. Pour the strawberry pulp and extraction mixture through a strainer and into a medium glass bowl. Use the spoon to press the mashed bits of strawberry against the strainer forcing even more of the mixture into the container.
7. Pour the extraction mixture into a smaller glass container that holds 1/4-1/2 cup(50-100mL). This will help isolate the DNA on the surface of the mixture.
8. Add 1 teaspoon (5ml) of the chilled alcohol to the solution and hold the mixture at eye level. You are looking for a separation of material that shows up as a white layer on top. That's the DNA of the strawberry!
9. Use the tweezers to gently remove the DNA from the solution and lay it on a dish to examine.

DISCUSSION

- What makes up DNA?
- What is DNA used for in a lab?
- What role does the alcohol, dish soap and salt play in the extraction of the DNA?



Inspiration from <http://www.stevespanglerscience.com/lab/experiments/strawberry-dna/>



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