**DNA EXTRACTION PROTOCOL – CHEEK CELLS**

**MATERIALS**:

3% salt solution, plastic cup, marker, graduated cylinder, dish soap, stir rod, food coloring, ice-cold isopropyl alcohol, beaker, test tube with alcohol

**PROTOCOL**:

Step 1: Measure 45 mL of tap water in graduated cylinder and transfer to plastic cup. Mark water level with marker. Discard water and dry cup.

Step 2: Pour salt solution into cup to previous mark. Swill salt solution in your mouth vigorously for 1 minute.

Step 3: Spit water back into cup. Now your cheek cells are suspended in the salt water.

Step 4: Gently stir the salt water with one drop of soap. (Avoid bubbles as much as possible). DNA is an extremely long molecule. Physical abuse can break it into smaller fragments, a process known as shearing.

Note: Soap breaks down the cell membranes, releasing the DNA.

Step 5: In a separate beaker, mix 100 ml cold isopropyl alcohol and 3 drops of food coloring.

Step 6: Tilt the salt water cup and gently pour the alcohol down the inside of the cup so that it forms a layer on top (about 2 cm thick).

Step 7: Wait about 2.5 minutes. You should see white clumps and strings forming. The alcohol/soap interface is where most of the DNA will precipitate out of the soap solution.

Step 8: Twirl the rod to spool the DNA strands around it. If too much shearing has occurred, the DNA fragments may be too short to wind up, and they may form clumps instead. You can try to scrape these out.

Step 9: After you have wrapped as much DNA on the rod as they can, remove the rod and scrape or shake the DNA into a small tube with more clear isopropyl alcohol.

That's your DNA!

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