

The suspects:

Suspect 1 (S1) – Rasha

Samer's secretary who has worked with Samer for over 12 years. A single woman whose love of horse racing has reportedly bankrupted her. Although her money problems were well known, she confessed to police that she did not want to take a job that might pay her more because she felt obligated to Samer after working for him all those years.

Suspect 2 (S2) - Adel

Samer's main competitor in the oil and gas business. Although primary competitors, they have worked together closely on many business transactions over the years. Most recently, Adel agreed to buy part of a company that Samer had acquired through a law settlement. Although publically it formed a successful alliance between the two business partners, privately it was reported that Samer's attempt to later buyback Adel's share in the company went bad, with Samer trying to force Adel out of the company.

Suspect 3 (S3) - Asma

Samer's wife. They have been married for almost 37 years. Asma inherited millions of dollars as a result of Samer's life insurance policy. All indications from friends suggested their marriage was healthy.

Suspect 4 (S4) - Ahmed

Samer's close friend from childhood. Reportedly, Ahmed has held Samer in contempt for years from a childhood incident that took place in Ahmed's house when they were both 11 years old. Ahmed has refused to give details about this incident, but to this day says Samer brought shame upon him and his family.

Suspect 5 (S5) - Sayed

Samer's gardener. He comes from Bangladesh and has been working in Samer's house for the past 20 years. Recently, Samer had fired him as he had caught Sayed sleeping one afternoon. Sayed was angry as he had devoted his time in serving his employer for so many years yet just one minor mistake resulted in him being sacked.

Instructions

Discuss in your group: Who you think committed the murder? This is formulating a hypothesis. Based on the suspect's background, provide a reason why you suspected that individual.

Follow the protocol below to use scientific evidence to prove/disprove your hypothesis (Biorad #166-0007EDU)

1. Once you get into lab, choose a partner, find a station, get a pair of goggles, a pair of gloves, and a lab coat on.
2. Your designated mentor will join you and take you through: "How to use a micropipette"
3. Practice with loading dye on a practice gel .
4. Collect the tubes labelled CS, S1, S2, S3, S4 and S5 from the a heating block set at 37° C
5. Add 5µl loading dye (LD) to each sample and prepare to load the sample.

Agarose gel electrophoresis

1. Be sure the electrophoresis buffer covers the gel completely. If not pour more 1 x TBE buffer into the gel box.

2. **Load your 6 samples into 6 different wells in the gel and load a MARKER into the last well (this will be provided by your mentor).** Be sure to record on the space provided behind this handout what each well contains. Run at 120V for 30 min. During this time you will extract DNA from strawberries.

3. At the end of the run, we will visualize the gel under UV light to capture our results. Lastly, draw a conclusion on who was the killer as proven by scientific evidence.