

Contemporary applications of the sciences dna profiling

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Contemporary Applications of the Sciences / DNA profiling

DNA Profiling DNA or Deoxyribonucleic acid is a double helix structured self replicating material that is found in the cell's chromosomes of all the living organisms. It is the carrier of the characteristics of the individual as it is the same in all the cells of the body. Since the DNA genetic code is the same in all parts of the body, it is used as basis for individual identification. DNA profiling is one of the modern day applications of DNA technology that has been used nowadays. It provides information about the individual's gender, physical characteristics and others. It is also useful in forensic biology to identify culprits for crimes and a very accurate solution for paternity issues. DNA profiling includes several steps such as: isolation of the unknown DNA sample from the origin; processing and testing of the sample; determination of test results; and comparison of the results from a known sample. As the DNA are isolated from the sample, there are many techniques applied to test the genetic code (National Institute of Justice, 2012). The area where the DNA samples were taken must be identified. This fragment is then identified using a probe to binds to the fragment and then subjected to radiation to make a visible image on the X-ray film. This kind of analysis is called the RFLP analysis (Roberts, Taupin, and Raymond).

There are many other tests that can be done as alternative to one way of testing such as Polymerase Chain Reaction (PCR), Short Tandem Repeats (STR), Y-Chromosome, and Mitochondrial DNA. In cases of forensic investigation, the sample taken is then compared with the victim or the suspect of the crime scene for full identification. Match or mismatch of these samples can be the answers of the investigation, especially the question of

guilty or not guilty (National Institute of Justice, 2012).

Works Cited

National Institute of Justice. 2012. "DNA Evidence: Basics of Analyzing". NW.

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