Forensic DNA testing

Just like fingerprints, everyone has their unique DNA profile. Materials tested include saliva, semen, faeces, urine, teeth, hair, blood and body cells that the suspect may have left behind from which a reliable DNA profile can be established (Ritter, 2018). The DNA profile obtained from the suspect is then compared to the crime's samples, and if they are found to match, then the results confirm the presence of the suspect at the crime scene.

DNA testing is conducted in well-equipped laboratories that meet the FBI's requirements, in most cases, government-owned facilities. In most cases, the DNA is first extracted from the cell then quantified to determine the amount present. Often, the amount present is not adequate to conduct the tests and therefore it is amplified through the production of multiple but similar copies (Goldberg, 2013). The amplified sample is then separated for analysis and interpretation which involves comparing the obtained DNA profile to known profiles. These known profiles are either from samples of the suspects or the National DNA Index System created by the FBI ("CODIS - NDIS Statistics," 2018). The process and the reports are reviewed to ensure accuracy is maintained as this is a very crucial source of evidence in a court of law.

While other methods lead to a large group of suspects, DNA testing narrows it to very few and, in most cases, single out the individual. Hair analysis, for instance, narrows down to 25% of the population since it is estimated that more than 25% of the population share the same type of hair, and so do eyewitnesses.

References

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